DOCUMENT RESUME

ED 146 969	95	JC 770 553

TITLE	Articulation of Competency Based Education for Nursing. Final Report, 1974-75.
INSTITUTION	Mount Hood Community Coll., Gresham, Oreg.
SPONS AGENCY	Fund for the Improvement of Postsecondary Education (DHEW), Washington, D.C.
PUB DATE	[75]
NOTE	310p.; Figures 5.1 and 5.2 have been deleted due to poor reproducibility. Occasional light type
EDRS PRICE	MF-$0.83 HC-$16.73 Plus Postage.
DESCRIPTORS	Admission Criteria; Behavioral Objectives; Community Colleges; Competitive Selection; *Curriculum Design; Curriculum Development; Dropouts; Evaluation Criteria; Followup Studies; Graduates; Health Occupations; *Instructional Design; Instructional Materials; *Junior Colleges; *Nursing; *Performance Based Education; Practical Nurses; Questionnaires; Student Evaluation

ABSTRACT

This project sought to develop a competency based curriculum for Associate Degree Nursing that would be a logical outgrowth of the principles on which student performance outcomes and measurable exit criteria were based. The report includes the products, processes, and evaluation of each of the following project objectives: identification of the conceptual logic of nursing as an applied science; the development of instructional logic; the identification of alternative instructional materials for reaching performance outcomes; the development of behavioral entry criteria for learners; coordination of entry and exit criteria with college admissions policies; refinement of exit criteria; follow-up of graduates and dropouts; and continued refinement of learner competencies. In addition, extensive appendices include sample learning packets, student evaluation criteria for personalization of patient care, criteria for aide and licensed practical nurse performance, samples of course syllabi, identification of critical elements by nursing care area, daily behavior chart and computer forms, a course outline for competency based education, and letters and questionnaires pertaining to graduates, dropouts, work supervisors, and head-nurse administrators. (RT)

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ED146969

ARTICULATION OF COMPETENCY BASED EDUCATION FOR NURSING

Final Report

1974-75

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400 Maryland Avenue, S. W.
Washington, D. C. 20202

JC 770 553

ACKNOWLEDGMENTS

The ideas and objectives developed in this study were conceived by Diana H. Dean, R.N., Ph.D., in her persistent effort to assure competence in nursing by improving the educational process. She attempted to direct this project despite the sudden onset of a terminal illness. Her death in April, 1975 was a great personal loss to the faculty and the nursing profession. In dedication to Diana, and to ensure that these same ideas and directions which we fully support and appreciate are continued, the faculty has worked with renewed resolution to complete the project.

The completion of this project is due to the cooperation of many persons. Special acknowledgment is given to Siegfried Engelmann who gave of his time throughout the year to meet with the project programmer to give direction in the area of conceptual logic.

The administration of Mt. Hood Community College was supportive of the project by providing time for the Science Division Chairman and an instructor in Anatomy and Physiology to participate in the initial development of concept logic, in arranging for the Competency Based Workshop for the general college faculty, and in assuming responsibility to set up new direction to ensure completion of the project. Alan Goodell, the Director of Admissions and Records, met with faculty and staff throughout the year on the development of admission criteria and a narrative transcript. Everett Arnold served as liason between administration, faculty and project staff and was most helpful to Dr. Dean in assisting her to direct the project from her home. Jeff Boehm, Ph.D., Allied Health Division Chairman was expeditious in assisting faculty and staff to proceed with the project. Anne Theus, Coordinator of Special Projects, was very responsive to our continual requests for budget status and availability of funds for special expenditures. Tom Johnson, Research Specialist, gave advisement on the follow-up questionnaires and subsequent data analysis.

Recognition is also given to the following persons who served as consultants in special areas of the project: Karl J. Wetzel, Ph.D., Associate Professor of Physics, University of Portland, who edited our concept logic related to physics; Martin Waechter, Ph.D., Assistant Professor of Curriculum and Instruction, University of Oregon, for analysis of follow-up study data; Aubrey Forrest, Ph.D., Dean, St. Paul Learning Center, Minnesota Metropolitan State College, in the development of a narrative transcript; and to Carrie B. Lenburg, Ed.D., R.N., Coordinator, Regents External Degree in Nursing, for sharing their "Study Guide for Evaluation of Clinical Performance in Nursing", with us.

Special recognition is given to Carl Koenig, Ph.D., and Harold Kunzelmann, of International Management Systems, Kansas City, Missouri, who analyzed all previous data for admission and selection criteria, developed the screening tool for admission and helped us organize the final project report.

All A.D.N. faculty members participated in the project as assigned, at some time through the year. They were:

Laura Baldwin, R.N., B.S.
Gene Crumpton, R.N., B.S.
Marjorie Dolph, R.N., M.S.
Jean Kimmel, R.N., M.S.
Tyana Luber, R.N., D.P.H.
Gary Miller, R.N., B.S.
Karen Shiraishi, R.N., M.S.
Norma Simons, R.N., M.S.
Dorothy Waltie, R.N., M.S.

Gene Crumpton was especially valuable through the year because of her expertise in physiology and all areas of clinical nursing. So too, was Cheryl Naman, R.N., B.S., a former faculty member who assisted the programmer in developing learning packets.

Project Staff members were:

Sonya Lindly, Deputy Director
Phil Jones, Research Assistant
Kathy Morimitsu, Educational Programmer
Jordan Epstein, Assistant Educational Programmer
Robin Collins, Typist

A final note of appreciation is extended to the Fund for the Improvement of Post Secondary Education, the agency which funded this project, and to Raymond Lewis, Ph.D., Project Officer, for his support and assistance throughout the year.

Beni Rice, R.N., M.S.
Project Director
Acting Coordinator of the A.D.N. Program

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INTRODUCTION

The Mt. Hood Community College Associate Degree Nursing Program has for the last four years developed and maintained a competency based educational program. This educational mode lends itself particularly well to the field of nursing, which has as its terminal educational objectives, a number of procedures which are readily measurable and observable. In 1973-74, the Mt. Hood Community College A.D.N. faculty, with the help of a grant from the Fund for Improvement of Post Secondary Education, developed a curriculum model (Write, Say, Do) which clarifies student performance competencies in relation to measurable exit cirteria. Having these specifically defined student performance outcomes, the focus of attention for this project was centered on the curriculum itself. Successful student performance could occur only as a function of a successful curriculum. The faculty envisioned a successful curriculum as one in which the nursing practices and procedures would be presented and learned as a logical outgrowth of the scientific, psychological and sociological principles upon which the competencies are based.

Certainly this concept is not new to education. The integration of theory with practice has been one of education's greatest challenges. Too often, however, the dichotomy between theory and practice remains despite highly technological educational approaches.

During 1973-74, the A.D.N. grant staff explored current educational literature in a search for an educational strategy that would offer an alternative to traditional curriculum approaches. Findings and conclusions can be found in Project Report 3.0 (January, 1974), "Issues Involved in

Construction of a Competency-Based Curriculum

Specific findings that were significant to the evolution of the current project, "Articulation of Competency Based Education for Nursing", were: 1) The belief that there is a logical flow in the development of knowledge for the learner; 2) that this logical flow can be clustered into domains of learning; 3) that these domains of learning can be evaluated from teacher developed tests (Bloom, Hastings, Madaus, 1971).

A survey of strategies for curriculum development resulted in a philosophical approach that combined elements of taxonomic approach developed by Bloom (learning modules approach) and the conceputal learning model developed by Engelmann (1969). The last model was found to be particularly applicable to the unique needs of nursing education. The model is based on the assumption that there are no theoretical descriptions that operate in the abstract. Further, it states that all theoretical descriptions are instrumental to particular practitioners and therefore are related to specific decisions which are made. Specific sets of decisions are mandated by a particular situation and are related to a specific set of concepts, which can be identified, manipulated, and taught.

To accomplish this educational refinement the Project set four goals. The goals were:

1) Develop conceptual logic, instructional logic and materials that are responsive to the learner, to multiple entry and exit criteria, and utilization of faculty
2) Develop behavioral entry criteria for learners, as well as to refine exit criteria

3) Examine and follow-up graduates of the nursing program, both those who have completed one or more levels of the program and those who dropped out before completion of one or more levels

4) Continue refinement of student competencies focusing primarily on the relationship of the performance requirements necessary for graduation and subsequent occupational demands.

"Articulation of Competency Based Education for Nursing" has been a successful project. The above project goals were reached within the framework of a specific Admission System, Coursework Operations and a Follow-up Study. Figure I-1 illustrates the operational framework which facilitated reaching the project goals. The Entry-Exit Plan provides for individual assessment of skill levels and a prescriptive direction for future study within the course content of the Associate Degree Nursing Program.

The Entry-Exit Plan has three phases. The first phase, Admission Systems, complies with the Mt. Hood Community College's policy of open enrollment. Upon selection as a candidate for the program, past experience is immediately taken into consideration by having four categories for applicants; No Experience, Past Nursing Program, Aide Experience, and L.P.N. Experience.

The second phase, Coursework Operations, outlines the open processes available to each student in obtaining credit for prior experiences by demonstration of nursing skills prior to coursework. The success or failure of a student, in challenging the course content, is used to prescribe more advanced courses and/or for tailoring specific instruction for required courses.

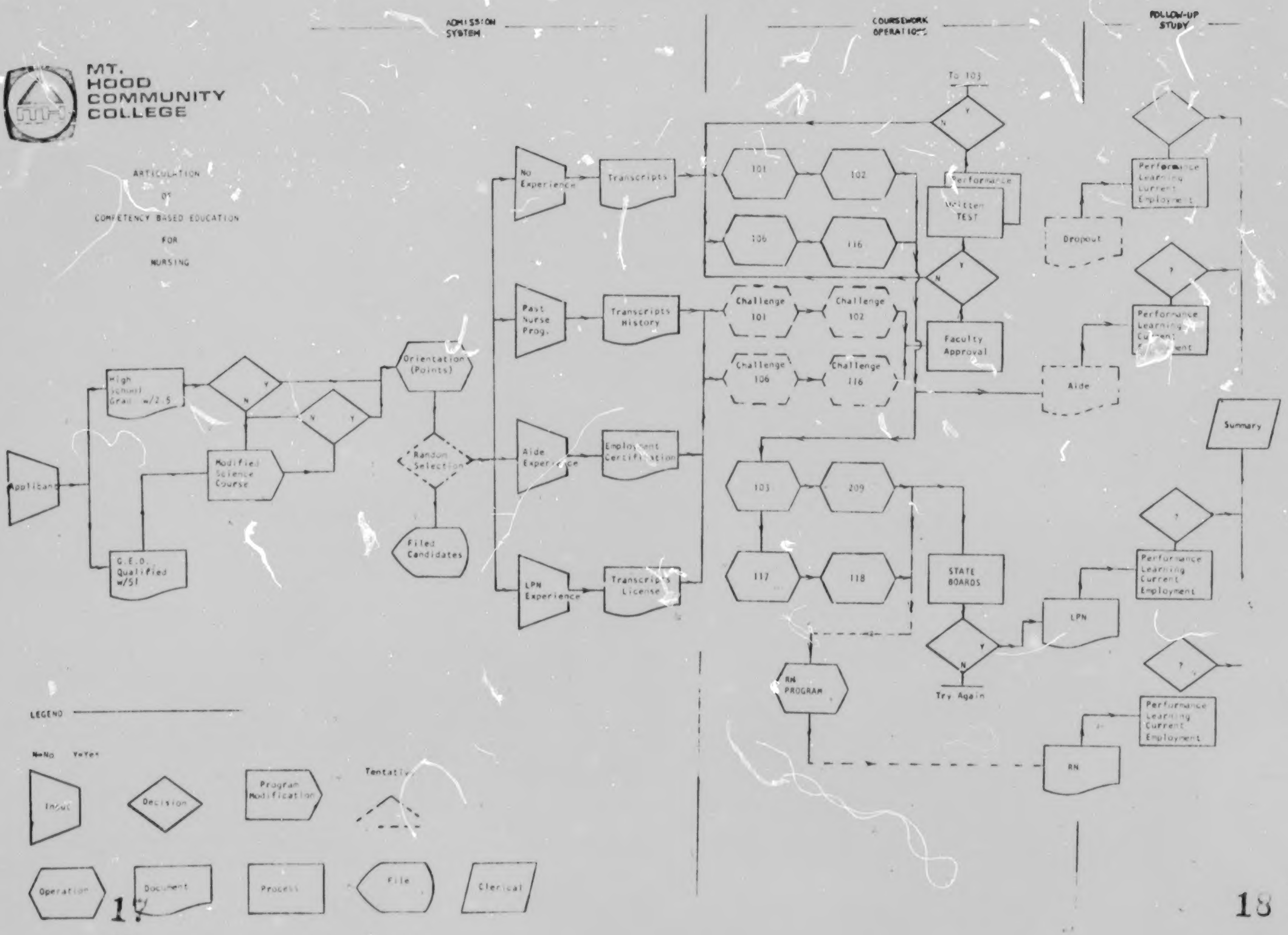
The third phase, Follow-up Study, allows for feedback to the nursing faculty as to their students' success in various job settings.

FIGURE 1-1

ENTRY-EXIT PLAN

MT.
HOOD
COMMUNITY
COLLEGE

ARTICULATION
OF
COMPETENCY BASED EDUCATION
FOR
NURSING


ADMISSION SYSTEM
COURSEWORK OPERATIONS
FOLLOW-UP STUDY
Applicant
High School Grad. w/2.5
G.E.D. Qualified w/51
Modified Science Course
N
Y
Orientation (Points)
Random Selection
Filed Candidates
No Experience
Past Nurse Prog.
Aide Experience
LPN Experience
Transcripts
Transcripts History
Employment Certification
Transcripts License
101
102
106
116
Challenge 101
Challenge 102
Challenge 106
Challenge 116
To 103
Performance
Written TEST
Faculty Approval
103
209
117
118
STATE BOARDS
Try Again
RN PROGRAM
Dropout
Aide
LPN
RN
Performance Learning Current Employment
?
Summary
LEGEND
N=No Y=Yes
Input
Decision
Program Modification
Tentative
Operation
Document
Process
File
Clerical

This project was designed to investigate parts of each of the three phases of the Entry-Exit Plan. Table 1-1, Project Objectives Relationship to the Entry-Exit Plan, shows the organization of the project objectives into each of the three phases of the Entry-Exit Plan.

The project objectives facilitated reaching the project goals while refining the Entry-Exit Plan. This report gives specific details of how successfully each objective was completed. This report is ordered by objective. Each objective section includes Products, Processes and Evaluation information. The format is consistent for each objective and is found in outline form in the Table of Contents. The Project Summary section gives a brief explanation of how successful this project was as a function of the sum of percentages of successful completion of each objective.

Table 1-1

Project Objectives' Relationship to Entry Exit Plan

Admission System	#5.	Interface entry and exit criteria with college admission, placement, registration and transcript procedures and policies.
Coursework Operations	#1.	Develop conceptual logic that responds to the content of nursing as an applied science, to the learner, to multiple entry and exit criteria and to the utilization of faculty.
	#2.	Develop instructional logic that responds to the content of nursing as an applied science, to the learner, to multiple entry and exit criteria and the utilization of faculty.
	#3.	Identify instructional materials necessary to provide to the learner alternatives for reaching performance outcomes.
	#4.	Develop behavioral entry criteria for learners.
	#6.	Refine exit criteria.
Follow-up Study	#7.	Do follow up of graduates who have completed one or more levels of the program and those who dropped out before completion of one or more levels.
	#8.	Continue refinement of learner competencies focusing on relationship of performance requirements for graduation and subsequent occupational demands.

OBJECTIVE 1

DEVELOP A CONCEPTUAL LOGIC THAT RESPONDS TO THE CONTENT OF NURSING AS AN APPLIED SCIENCE, TO THE LEARNER, TO MULTIPLE ENTRY AND EXIT CRITERIA, AND THE UTILIZATION OF FACULTY.

PRODUCTS

- The Relationship of Personalization, Assessment and Intervention Nursing Skills to the Social and Physical Sciences (Table 1-1).
- Paradigm of the Concept-Assessment Basic to Circulatory System functions (Table 1-2).
- Paradigm of the Concept-Intervention to Personalization (Table 1-3).
- Conceptual Logic Outline - Intervention (Table 1-4).
- Conceptual Logic Outline - Assessment (Table 1-5).
- Conceptual Logic Outline - Personalization (Table 1-6).

PROCESSES

- Selection of Curriculum System
- Identification of Concepts
- Refinement of Concepts
- Concepts Related to Performance Outcomes

Selection of Curriculum System

The original Project Proposal stipulated Activity 1 as "select, one course sequence to be analyzed as to conceptual content related to expected learner performance." As stated in the Proposal Addendum, there were several issues raised regarding the analysis of concepts within the parameters of a sequence of courses.

These issues dealt with 1) the possible misinterpretation of the use of the word "course" as a traditional instructional format, 2) the methodological danger of remaining locked within course parameters when the need is to ultimately analyze the effects of concept analysis on the entire curriculum, and 3) any strategy of analyzing the conceptual logic of nursing as a body of knowledge should insure generalized application to other disciplines, which a course analysis would preclude.

Rather than select one sequence of courses, therefore, 3 nursing concepts utilized throughout the curriculum were analyzed (Table 1-1):

1) Personalization - to maintain the dignity of each person as an individual and adjust services to his/her special needs and concerns.
2) Assessment - gathering and utilizing relevant information from multiple sources to make decisions.
3) Intervention - nursing actions for potential therapeutic and preventative effects.

Identification of Concepts

To begin the task of identifying concepts related to performance outcomes (Activity 4), information and feedback were necessary from persons demonstrating expertise in the physical, psychological, and sociological

Table 1-1

The Relationship of Personalization, Assessment and Intervention Nursing Skills to the Social and Physical Sciences

Social Science	Personalization	Physical Science
Self-concept Identity group cultural Space Time Distance Stress	← calls by name neutral space intimate space asks time preference to fit regular time fits treatment to patient's cultural identity	Metabolism Genetic make-up Stress physiologic anatomic
	← asks preferences fits patient routine consequate strengths teach to weaknesses →	
	respond to anatomic differences respond to physiologic variations →	

Social Science	Assessment	Physical Science
Self-concept Identity groups cultural hygiene nutrition sexual Space Stress Information getting interviews response observation pinpointing behavior recording-written a[illegible]graphs re[illegible]ting	← interviews for social history interviews for psycho-sexual history	Metabolic nutrition Genetic Stress Safety Hygiene Asepsis Anatomic Physiologic Fluid balance
	← interviews for patterns of daily living observes for stress initiates hosp. record reports information for decision making prioritizes evaluates care →	
	medical genetic history takes vital signs does physical exam gives bath makes bed brushes teeth →	

Social Science	Intervention	Physical Science
Self-concept Identity man as whole man as system Problem solving logic inductive deductive Creativity	← interpersonal skills	Metabolic Physiologic differences Anatomical structures Fluid Balance Biochemical processes Body mechanics Alignment Levers
	← gives bath makes bed positions body prioritizes care →	
	brushes teeth gives O_2 turns immunization →	

domains of science, in addition to the field of nursing. A content advisory committee was thus established (Activity 2). It consisted of nursing faculty, professors of anatomy and physiology, chemistry, and sociology, for whom release time was provided by this Project. Short term consultation was provided by a physicist, a programming expert, and a psychiatric nursing specialist. This committee, at weekly meetings, reviewed the instructional materials prepared by the educational programmer for accuracy and conceptual logic (Activity 3).

Once the process of identifying concepts was under way, it became necessary to select an area of focus for which the concepts of personalization, assessment and intervention could be applied, in terms of relevant nursing decisions. It was decided to examine the scientific theory basic to the circulatory system first. By limiting focus to one body system, the concepts upon which specific nursing performance outcomes are based would be analyzed. These specific nursing behaviors were also requirements of the Write-Say-Do curriculum. Program integrity and consistency would thus be ensured. It was also necessary at this point to define the use of materials to be developed. Because the A.D.N. program is one that encourages students to proceed at their own particular rate and because of the multiple entry and exit nature of the program structure, student-directed materials with a minimum of teacher supervision seemed to be indicated.

Thus began the process of identifying concepts necessary to perform specified nurse actions dealing with the circulatory system. All nurse actions dealing with assessment, intervention, and personalization of care related to the circulatory system were carefully scrutinized. This initial process yielded the need to define levels of knowledge, as more sophisticated care entails the knowledge of concepts dealing with other body systems. It was decided to limit nurse actions to those that could be performed responsibly by first-year students.

Designating the scope of the task analysis had a two-fold result: 1) concepts related to this level could be logically related and contained within the parameters of scientific theory basic to the circulatory system; 2) the student competencies stated in the Write-Say-Do curriculum were further reinforced.

Refinement of Concepts

The actual identification of concepts involved the lengthy process of categorizing disease conditions and observable phenomena related to circulatory system function and malfunction. From this information, a Concept-Assessment paradigm basis to circulatory system function was developed (Table 1-2). These concepts were further related to intervention as shown in Table 1-3, Concept-Intervention Paradigm. The outline and preliminary curriculum materials were scrutinized carefully by the advisory committee and by consultants. An exhaustive search of relevant literature was made to ensure the validity of concepts.

It became clear that in order for the more sophisticated demands of assessment and personalization to be meaningful for a particular condition, separate learning packets teaching the basic concepts of these respective processes would need to be developed. Knowing the basic concepts of personalization and assessment would enable students to function in any given situation. They would also know how to personalize and assess for specific situations dealing with procedures related to the circulatory system (i.e. personalizing or assessing while measuring pulse or blood pressure).

Table 1-2
Concept-Assessment Paradigm
The Circulatory System

Nurse Action	Finding	Concept	Assessment	Interpretation	Intervention
Takes pulse	1. Pulse rate elevated	Demand for oxygen is up.	Fever: Take, temp., ask about fever, chills, sweating, feel skin for goosebumps, look at skin for flush, goosepimples, sweat, pallor, chilling, palpate. Pain: Ask about pain, look at body/facial language, exam., posture, obs. environ. for noxious stimuli, get historical data, consider culture of patient, tell patient alternatives, ask what might relieve pain.	This could be caused by: Increased metabolic demand. Fever. Pain. Stress. Drugs. Catabolism. Environment. Exercise. Malnutrition. Thyroid, adrenal, etc. RBC count down	Treat fever. If adult and temp. is greater than 101, give A.S.A. If temp. is greater than 102, use cooling procedure: 1) change the environment (remove excessive clothing, change temp. of room, etc.); 2) sponge with tepid water; 3) hypothermiate. Assess for hydration: fast pulse, dry skin. Treat pain. Treat stress. Treat cause.
	2. Pulse rate decreased Volume weak	Oxygen supply is down.	Look at skin color and feel skin temperature especially of the extremities. Observe color of the nailbeds and lips. Feel skin for moistness. Look at neck veins. Determine level of consciousness. Ask patient how he/she feels (note subjective symptoms such as tingling, dizziness, thirst, anxiety).	Problem with access to oxygen at lung. Pipe size (too large), integrity of pipes. Shock. Hemorrhage. Dehydration. Drugs. Ventilation. Medication.	Shock: on basic level, lay patient flat, cover - keep comfortably warm, keep quiet lower demand of body. On mor advanced level; 1) get IV started; gather equipment, call-initiate process, get access to vein, 2) administe oxygen. 3) stay with patient or have someone do so. 4) treat cause.
	3. Pulse rate irregular.	Pump set wrong		Arrhythmia. Electrical conduction problem. Drugs. Neurogenic.	

Development of Pump set wrong
not completed.

Table 1-3
Concept-Intervention Paradign to Personalization

In column one nurse interventions are listed. In column two please list all the personalizations that a good nurse would do for each situation. When possible, please list specific personalizations for factors such as age, level of activity, or cultural and ethnic background.

	NURSE INTERVENTIONS	PERSONALIZATIONS
1.	Regulate IV's.	
2.	Give Medications.	
3.	Treat hemorrhage	
4.	Regulate patient's body temp.	
5.	Treat shock.	
6.	Take pulse.	
7.	Treat fainting.	
8.	Treat pain.	
9.	Treat anxiety or stress.	
10.	Get patient rested.	
11.	Check for level of consciousness.	

Concept analysis was thus directed to: 1) theory basic to performing interventions related to the circulatory system (Table 1-4); 2) the process of assessment (Table 1-5); and 3) personalizing patient care (Table 1-6). Instances of each of these concepts were designed to reinforce each other; i.e., a basic personalization format teaching the concept of giving patients information about care would be utilized explaining blood pressure procedures. The concepts dealing with circulatory system theory would thus be reinforced in the personalization track.

Once the basic concepts were identified, they were organized logically so that, understanding one concept would be requisite for understanding the next. Utilizing such a building block style of information organization would ensure the logical flow of knowledge for the student. Specific nurse actions were introduced only as a logical manifestation of the concepts taught. For example, students learn how to take pulses only after performing actions that indicate a knowledge of the principles defining pulse.

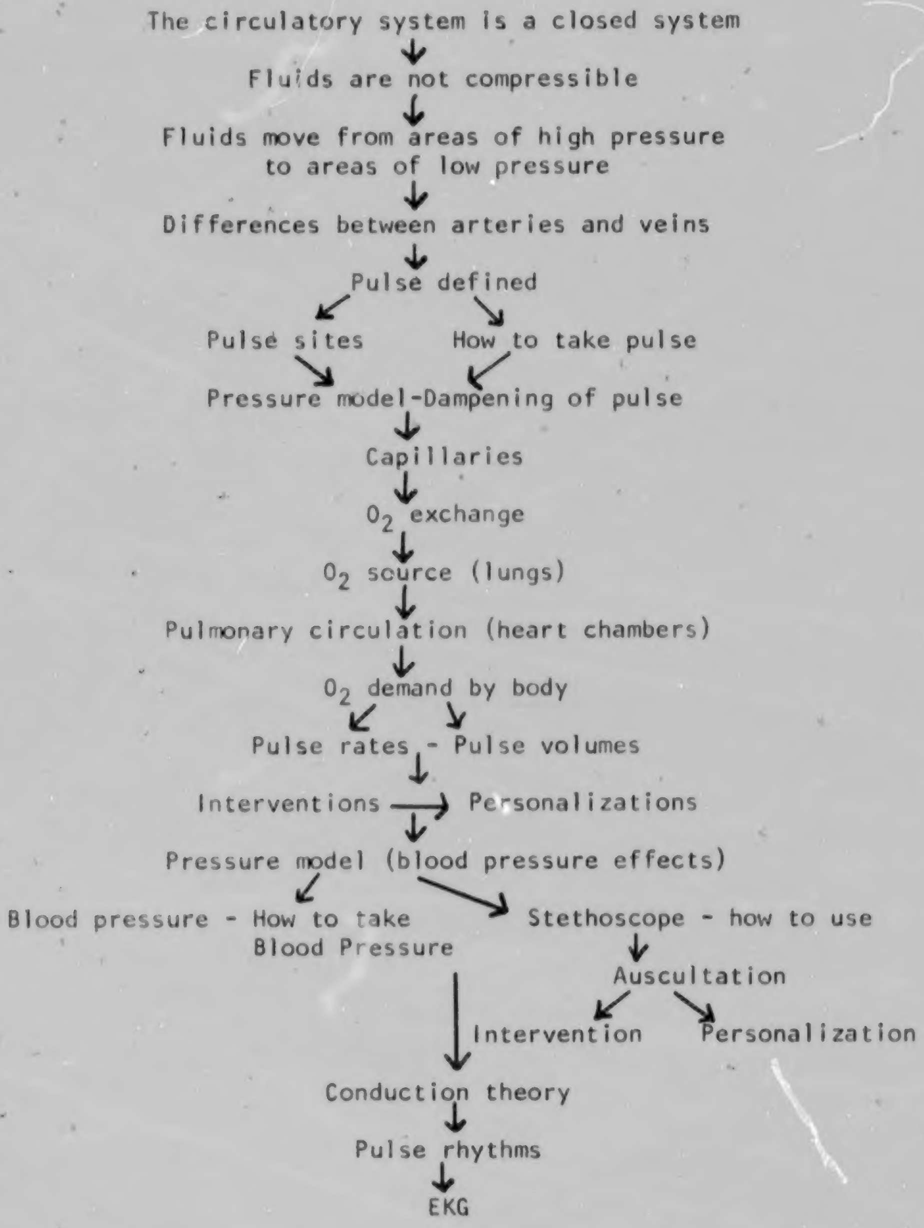
Concepts Related to Performance Outcomes

The process of concept identification was influenced in scope and direction by the need to relate conceptual logic in terms of performance outcomes (Activity 4). Traditionally, scientific theory and the concepts therein are dealt with separately from actual performance. The result is proficiency based on skill acquisition without utilizing the theoretical background necessary for a complete understanding of the process. To avoid the possibility of programming logic without regard to the respective practical applications, the nursing competencies listed in the Write-Say-Do syllabus were used as performance outcomes of the concepts identified. For example, competencies listed in the Write-Say-Do syllabus were measurement of pulse and measurement of blood pressure. These competencies are the performance outcomes for the concepts identified basic to Intervention of the Circulatory System (Table I-4).

These same processes and system of concept analysis could be generalized and applied to any performance outcomes and their related bodies of knowledge.

Table 1-4

Conceptual Logic Outline
Intervention
The Circulatory System



The circulatory system is a closed system

Fluids are not compressible

Fluids move from areas of high pressure to areas of low pressure

Differences between arteries and veins

Pulse defined

Pulse sites

How to take pulse

Pressure model-Dampening of pulse

Capillaries

O_2 exchange

O_2 source (lungs)

Pulmonary circulation (heart chambers)

O_2 demand by body

Pulse rates - Pulse volumes

Interventions → Personalizations

Pressure model (blood pressure effects)

Blood pressure - How to take Blood Pressure

Stethoscope - how to use

Auscultation

Intervention

Personalization

Conduction theory

Pulse rhythms

EKG

Table 1-5

Conceptual Logic Outline
Assessment

To make decisions and plan patient care, information about patient is gathered by:

Direct observation of patient

- visual
- aural
- olfactory
- tactile

Communication with patient

Consultation with other sources:
- doctor
- forms or charts
- other staff
- books and articles

Utilizing all possible sources of information, nurse then:

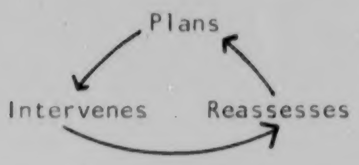


Table 1-6

Conceptual Logic Outline
Personalization

Each person is a Unique Being

Each person has a right to have his uniqueness recognized and respected

Recognition and respect of this uniqueness is necessary to preserve the individual's dignity and to ensure the feeling that he or she is valued.

If an individual does not feel valued, or his dignity is disregarded, his physical, emotional and/or mental stability will be disrupted.

Illness itself is disruptive to a person's physical, emotional or mental stability.

Adjusting nursing care to the unique qualities, needs, and concerns of each person (personalizing):

1. helps maintain the dignity of the individual and the feeling that he or she is valued.
2. prevents further disruption of the ill person's physical, mental and/or emotional stability.
3. is primary in assisting a person to adapt to or overcome those factors that are disrupting his or her state of well-being.

To personalize care, nurses must:

1. Gather information to determine the combinations of factors that contribute to the person's uniqueness, needs, and concerns, such as age, ethnic background, socioeconomic status, family role, values, habits, previous experiences, perceptions of self, and present situation.
2. Use this information to:
    a. establish rapport with the patient and family and interact positively.
    b. determine the information that the patient and family are unaware of in relation to his treatments and situation.
    c. give the patient and family the information that he or they needs and wants to know.
    d. adjust care and events to his special needs and concerns within the bounds of safety.
3. Allow the patient to express his feelings.
4. Demonstrate responsiveness with concern to the expressed feelings of the patient and family.
5. Allow patient and family to behave in their own unique way unless it is unsafe or it becomes unsafe or unhealthy for them.

EVALUATION OF OBJECTIVE 1

Objective 1 was primarily a process objective. Since all the activities were successfully completed, Objective 1 was 100 percent successfully completed. (Table 1-7.)

Table 1-7

Evaluation of Objective 1

Objective #1: Develop conceptual logic that responds to the content of nursing as an applied science, to the learner, to multiple entry and exit criteria and to the utilization of faculty.

	Planned Activities	Percentage Completion	Justification of Evaluation
1.	Select three nursing concepts to be analyzed as to conceptual content related to expected learner performance.	100%	3 Conceptual Logic Outlines
2.	Establish a content advisory committee composed of persons from the basic behavioral, physical and medical sciences.	100%	Committee formed and used.
3.	Use content advisory committee to advise, review, and comment with the nursing faculty and project staff on matters regarding conceptual logic.	100%	Consultation utilized.
4.	Identify concepts related to performance outcomes.	100%	Completed for Three Nursing Concepts and the Circulatory System.
5.	Examine conceptual logic in relation to "Do" learner performance outcomes.	100%	Completed for Three Nursing Concepts (See Table 1-4, 1-5, 1-6)
6.	Program concepts utilizing continuous faculty and advisory committee feedback.	100%	Circulatory and Basic Information Learning Packets, developed and Tested; Personalization and Assessment Learning Packets developed.
	Overall Outcome	100%	Average Percentage Completion of Activities 1 through 6.

OBJECTIVE 2

DEVELOP INSTRUCTIONAL LOGIC THAT RESPONDS TO THE CONTENT OF NURSING AS AN APPLIED SCIENCE, TO THE LEARNER, TO MULTIPLE ENTRY AND EXIT CRITERIA AND THE UTILIZATION OF FACULTY.

PRODUCTS

- Nine Learning Packets based on the conceptual logic programming technique were developed (Table 2-13).
- 170 slides, 1.5 hours of videotape, two experiments and one demonstration were developed, reviewed and revised by the nursing faculty (available upon request).

PROCESSES

- Defining the purpose and scope of materials developed.
- Identification of concept rules for programming.
- Programming instances and non-instances of rule.
- Identified potential student feedback systems.
- Utilization of instructional formats.

Purpose and Scope of Materials Developed

As previously stated, the Mt. Hood Community College A.D.N. program encourages the student to proceed at his own rate and allows him multiple exit and entry alternatives. It is therefore desirable to have available student-directed materials which require a minimum of teacher supervision. It seemed desirable to develop programmed instruction which would utilize a building-block style of information organization. Once the basic concepts were identified, they were organized logically so that, understanding one concept would be a requisite for understanding the next. Materials in the form of learning packets were developed so that the student can proceed at his own pace. This will allow faculty to become resource people rather than the primary source of information.

Conceptual Logic Programming Technique

The instructional strategies (Activity 2) employed in developing each of the learning packets closely follow Englemann's model of concept analysis. Each concept was analyzed so that its minimum essential features were defined. For example, the human circulatory system is an example of fluid dynamics in a closed system. A basic theory in such a system is that liquids flow from areas of high pressure to areas of low pressure. This rule was presented as such in a simplified form (Table 2-1).

Examples (instances) and non-examples (non-instances) of the concept were then programmed. Students were first given a model, then were required to provide instances or non-instances of the concept (Table 2-2). Experiments were devised in situations where a complex relationship could best be learned by actual demonstration (Table 2-3). Visual aids, such as slides and video-

Table 2-1

Concept Rule Example

Rule: Fluids flow from areas of high pressure to areas of low pressure.

Figures 6 and 7 show pipes with high and low pressure areas labeled. The arrows show which way fluids in the pipes would flow.

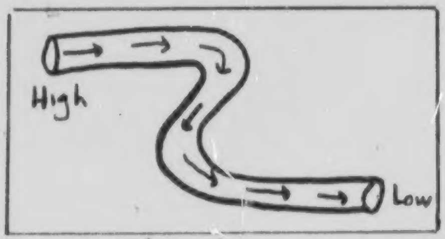


Figure 6

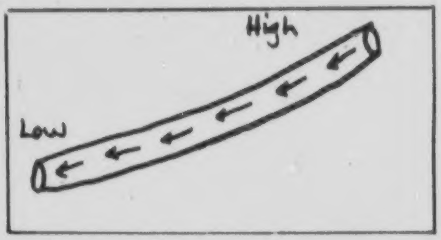
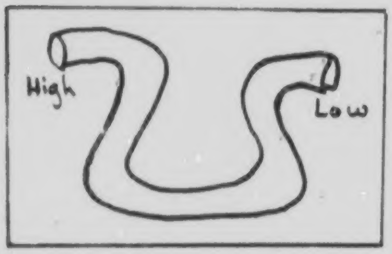
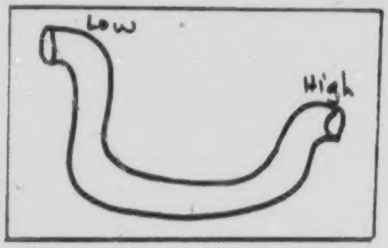


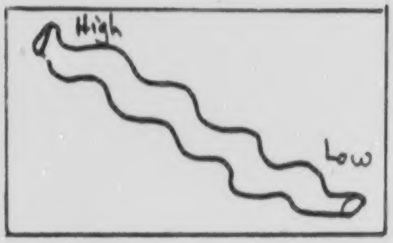
Figure 7

Now look at the figures in Exercise 3 and indicate with arrows which way the fluid would flow. Put your arrows inside the pipes just like in figures 6 and 7.

Exercise 3.







Now look at hypothetical pumps pumping fluid into pipes. The numbers in the pipes indicate the pressure of that area. The higher the number, the greater the pressure. The arrows show which way the fluid will move.

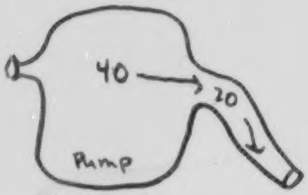
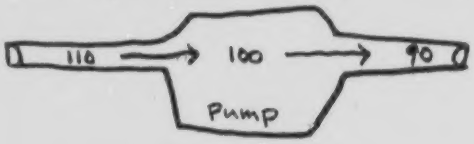


Figure 8


110
100
90
Pump

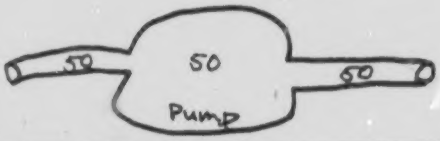

50
50
50
Pump

Table 2-2

Example of Instances and Non-Instances of Concept Rule*

It isn't always possible to anticipate every patient need. In the course of your duties you may encounter patients with personal desires and needs that should be respected. Below are some examples of exchanges between patients and nurses. The first example shows both a positive and a negative nurse response to a patient need. The other examples show only a negative nurse response. With the help of your instructor, write positive responses to each patient need.

1. A 50-year old Jewish man reads the menu for the day, which includes bacon and eggs for breakfast, a ham sandwich for lunch, and pork roast for dinner. He does not mark his menu.

Positive nurse reaction: I see you didn't mark your menu. Is it because of all the non-kosher foods? If so, I can call the kitchen and order some for you.

Negative nurse reaction: You better mark your menu. It has to get to the kitchen by ten or you won't get what you want.

2. An 80-year old woman, supposed to have her daily bath, says, "I had one last week."

Negative nurse reaction: "You haven't had a bath since last week?"

Positive nurse reaction:

---

*Concept: Personalization

Rule: People of different religions or ethnic backgrounds may have different needs which should be respected.

Table 2-3

Example of an Experiment Teaching Concept Rule

Experiment 1.
Equipment: syringe, water.

A. (1) Pull the plunger of the syringe as far back as possible. The empty space inside the syringe is filled with air. This space is the air's volume.
(2) Place a finger tightly over the open end of the syringe.
(3) Slowly push the plunger as much as you can.

Questions:
(1) Did the plunger move most of the way down the syringe? __________
(2) Did the air's volume inside the syringe get larger or smaller?
____
(3) Did you feel pressure on the finger held over the open end as the plunger approached the bottom of the syringe? __________

You have made the volume of air inside the syringe smaller by applying pressure to it. Making something's volume smaller with pressure is called compression. When you pushed the plunger, you compressed the volume of air. If something can be compressed, it is called compressible. Air is compressible. In fact, all gases, and air is a gas, are compressible.

B. (1) Place the syringe in water and slowly pull the plunger back. The syringe will now fill up with water. The space the water takes up inside the syringe is the water's volume.
(2) Again place a finger tightly over the open end of the syringe.
(3) Slowly push the plunger as far as it will go. Don't let any water leak out of the syringe.

Questions.
(1) Did the plunger move most of the way down the syringe? __________
(2) Did the water's volume inside the syringe get larger, smaller or stay the same? ____________________
(3) Did the water get compressed like the air did when you pushed the plunger? __________

When you pushed the plunger, you applied pressure to the water in the syringe. Unlike the air, the volume of water did not change. (If you didn't see this, re-do the experiment.) The water is not compressible. Under normal conditions all fluids, and water is a fluid, are not compressible.

RULE 1. FLUIDS ARE NOT COMPRESSIBLE.

---

tapes, were also created to teach instances and non-instances of concepts basic to visual assessment and personalization. Audio-visual presentations were reinforced and integrated into the textual materials to provide feedback of their respective effectiveness and to insure conceptual integrity of all materials (Table 2-4). Where experimental models were utilized, the concepts illustrated were related to actual nursing procedures to further reinforce the relationship between theory and practice (Table 2-5).

Table 2-4

Example of Textual Integration of Audio-Visual Material

The following videotapes will show two versions of two scenes. The nurse will 1) introduce herself, 2) orient the patient to his surroundings, if necessary, and 3) make an offer of aid. As you watch the tape, keep in mind the following criteria and be prepared to discuss the differences.

Criteria for Nurse Behavior:

Eye contact

Voice

Knowledgability

General demeanor

As you can see from these tapes, the way you act, speak, and behave can affect your patient. What are some ways you can avoid the pitfalls obvious in the second tape?

Table 2-5

Example of Integration of Nursing Procedures to Demonstration Model

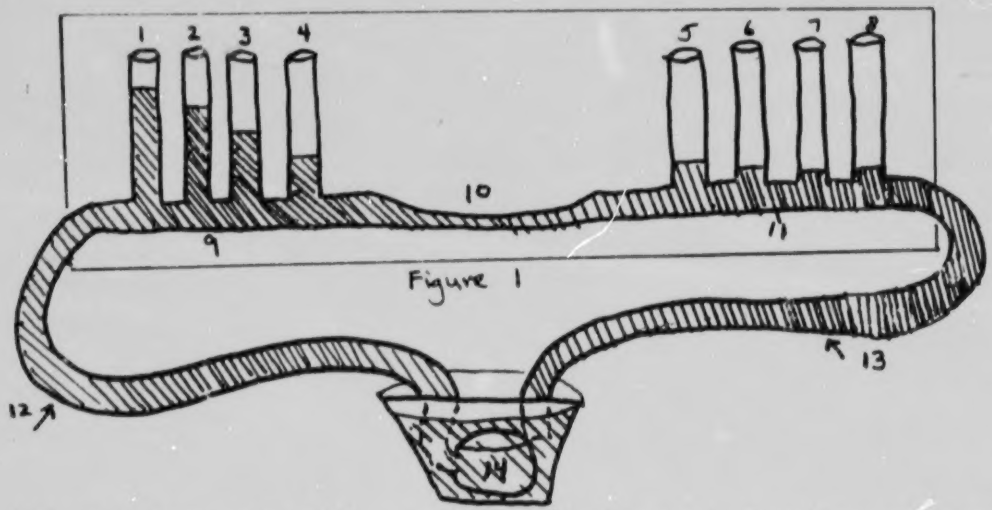


Figure 1 shows the model. Numbers 1-8, the vertical tubes, represent the pressure at different points along the horizontal pipe, numbers 9-11. The pump, number 14, pushes the water through the pipes and tubes. It takes pressure to push the water through the tubes so there is pressure all along the system. Wherever there is a vertical tube, the pressure pushes the fluid (in this case, colored water) up the tube. The greater the pressure in the system, the higher the fluid will be pushed. Look at the model. Which vertical tube indicates the highest pressure? Tube ______. Which vertical tube indicates the lowest pressure? Tube ______. In the figure, the pump is number 14. This pump represents the pump in your body, the ____________. Since pipe number 12 carries the fluid away from the pump or heart, it represents a(n) ____________ (name of pipe). Pipe number 9 is a continuation of pipe number 12. Pipes number 11 and 13 bring the fluid back to the pump. They represent the pipes that carry blood to the heart - the ____________ (name of pipe). The small pipes at number 10 carry the fluid from the artery side of the system to the vein side. These pipes represent the pipes called ______________.

In your body, pipes like 9 and 12, representing the arteries, pulse. Pipes like 11 and 13, representing the veins, do not pulse. Pipes like number 10, representing the capillaries, suppress the pulse.

When greater pressure is exerted against the artery walls in your circulatory system, the pulse will feel stronger. When less pressure is exerted, the pulse will feel weaker. Since the vertical glass tubes represent the levels of pressure in the circulatory system, at which vertical tube would the pulse be strongest? Tube ________. Since tubes 1-4 represent the arteries and the arteries pulse: which of those tubes would indicate the weakest pulse? Tube ________. Greater pressure against the arterial walls indicates [weaker, stronger] pulse.

Packets Developed and Tested

Design of the instructional formats and content items (Activities 3 and 4) was influenced by the results of the initial field testing (see Tables 2-6, 2-7 and 2-8) (Activity 5) and by feedback from the content advisory committee. It was found that successful student performance was directly correlated to: 1) frequent student exercises to reinforce concepts taught, 2) presentations of positive examples of desired student response, 3) intermittent comprehensive exercises. The materials were thus designed with frequent student feedback stratagems which utilize a number of different approaches (Table 2-9). By employing a variety of ways to elicit response, student interest would hopefully be maintained. Frequent written student responses would also enable instructors to assess individual student performance. Providing a model of desirable student response would also eliminate confusion and ambiguity on the part of the student (Table 2-10).

Following the conceptual logic outlines (Table 1-4), the materials were developed so that understanding one concept would be necessary to understand the next. Proof of student understanding would be evident from the exercises. To ensure that students understood all concepts presented in one packet before proceeding to the next packet, comprehensive exercises were included (Table 2-11). These exercises include all concepts that were presented in the order of their presentation so that logical relationships between items could be perceived.

Relationships between theory and concepts presented in the packets, and actual practical application were reinforced by student assignments in clinical settings (Table 2-12). Because the scope of the materials was

Table 2-6
Field Test Findings - Error Tally for Learning Packet I

Exercise	Item	# of Errors	% of Students Making Error	Revision
I (closed system)	1	2	20	
	2	2	20	
	3	3	30	Deleted
	4	3	30	
	5	3	30	
(human body)	6	1	10	
	7	1	10	
	8	3	30	Format and content change A
	9	3	30	
	10	3	30	
Experiment I (fluids not compressible)	1	1	10	
	2	2	20	
	3	1	10	Format change B
	4	2	20	
	5	2	20	
	6	2	20	
Exercise III (fluids not compressible in human body)	1	0	0	
	2	0	0	
	3	0	0	
	4	1	10	
	5	1	10	
	6	1	10	Format and content change AB 1,2,4
	7	1	10	
	8	1	10	
	9	1	10	
	10	2	20	
	11	1	10	
	12	2	20	
	13	2	20	
	14	2	20	
	15	3	30	
Exercise IV	1	0	0	
	2	0	0	
	3	0	0	
	4	0	0	
	5	0	0	
	6	1	10	
	7	2	20	Format and content change ABC 1,2,4
	8	1	10	
	9	1	10	
	10	2	20	
	11	4	40	
	12	3	30	
	13	1	10	
	14	1	10	

Table 2-7

Field Test Findings and Revisions
Format Changes

Materials tested:	Packets 1, 2, 3 of Intervention of Circulatory System
Population:	10 non-Allied Health related students
Time:	2 hours, May 22, 1975

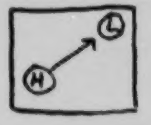
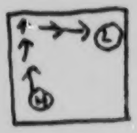
Findings	Example	Revision
A. Fill-in-the-Blank type questions were interpreted ambiguously.	The system of pump, fluid and pipes is the ______________. Correct answer: circulatory system Ambiguous response: closed system	The system of pump, fluid and pipes is called the ______________________. This system is [open, closed].
B. Some questions were interpreted ambiguously.	What happened to the volume of air? Correct answer: got smaller or was compressed Ambiguous response: went down, leaked out	Did the volume of air get smaller?
C. Diagram directions were ambiguous.	 correct response  ambiguous student response	Models were provided of proper student response.

Table 2-8

Learning Packets 1,2,3
Intervention of the
Circulatory System

Field-Test Findings and Revisions
Content Changes

FINDINGS	REVISIONS
1. Students had difficulty consistently discriminating between types of blood vessels.	1. Numerous exercises teaching this discrimination were programmed continuously throughout each of the packets.
2. Students had minor difficulty discriminating between open and closed systems.	2. This particular format was deleted as it was not crucial to an understanding of body systems.
3. Students had difficulty understanding valve operations in the heart.	3. These materials were expanded. Several exercises were designed to test student knowledge.
4. Students showed a need to have material introduced early in the packet be reviewed.	4. Frequent comprehensive exercises were integrated into the materials.

Table 2-9

Example of Various Student Feedback Devices

---

16. Match the term with its definition. Put the appropriate letter in the blank next to the term.

    1. Stroke Volume ______
    2. Minute Volume ______
    3. Flow ______
    4. 7 pints per minute ______

    A. Amount of fluid passing through a pipe in a given amount of time.
    B. Amount of blood pumped by the heart with each beat.
    C. The flow if seven pints of blood move through the heart each minute.
    D. Amount of blood pumped by the heart in one minute.

PRESSURE MODEL

Application 1

Look at the model. There is a gradual decrease in pressure as indicated by the levels of fluid in the vertical tubes. This decrease is from higher pressure (left side) to lower pressure (right side). The left side represents the [arteries, veins]. The right side represents the [arteries, veins]. The greatest drop in pressure occurs at the small pipes called ________________. From the direction of flow and levels of pressure indicated, you can deduct that in the body, blood pressure in the arteries is [higher, lower] than in the veins.

Application 2

The clamp on the left side marked in red controls the flow. Define flow,

____

Tighten this clamp. This decreases the amount of fluid in the system.

____

Table 2-10

Example of Instructional Model Given as a Pattern for Student Response

Exercise:

Assume the information listed below is from the Kardex or admission form. What special needs would you expect for each patient? How would you go about fulfilling these needs? If there are questions re: hospital policy, ask your instructor.

Example:

1. Six-month old baby in for digestive disturbances and tests.

Possible patient need: For parents to be present.

Possible nurse action: Ask authorities about arrangements for rooming in - make a note to inform parents.

2. Patient: 53-year old man in for observation - a Seventh Day Adventist.

Possible patient need:

Possible nurse action:

3. Three-year old girl in with hip surgery.

Possible patient need:

Possible nurse action:

4. 76-year old Chinese lady who doesn't speak English.

Possible patient need:

Possible nurse action:

Table 2-11

Example of Comprehensive Exercises

Exercise 1:

1. The pump in your body is called the ______________.
2. It pumps a fluid called ______________.
3. The fluid is pumped through pipes all around the body. None of the fluid normally leaks out. Such a system is a [closed, open] system.
4. The whole system of pump, pipes and fluid is called the [respiratory, circulatory] system.
5. The heart contracts and applies pressure to the blood in it. Does the volume of blood get smaller? ______________
6. Pressure is high in the arteries and low in the veins. In the human body, blood flows from the ______________ (name pipes) to the ______________ (name pipes). The rule that explains this is: fluids move from areas of ______________________________ ______________________________.
7. When the heart contracts, blood is forced into the ______________ (name pipe). What controls the direction of flow and keeps blood from backing up into the heart from the arteries? ______________ These obstacles also keep blood from flowing into the veins when the heart contracts.
8. The contraction of the heart sends a pressure wave moving through the arteries. As this wave passes through the arteries, it causes the artery walls to __________ and ______________. So the pulse is ______________________________ ______________________________ (define pulse).
9. Which pipes suppress the pulse? ______________
   Which pipes do not pulse? ______________
10. The contraction and relaxation of the heart - a heart beat - immediately proceeds the expansion and recoil of the artery walls - the pulse. Thus, the pulse serves as an indicator of the activity of the ______________.
11. The amount of blood moving through a pipe in a given amount of time is the [volume, flow].
12. When the flow increases, the pressure [increases, decreases]. This says flow is proportional to pressure.
13. An increase in the pressure in your arteries means the pulse will feel [weaker, stronger].
14. A large hole in the circulatory system allows fluid to leak out. As a result, the pressure in the system goes [up, down].
15. Look at the figure. The pipe narrows at the starred arrow. The direction of flow is indicated by the other arrows. In which segment, A or B, is the pressure higher? __________ A narrowing or restriction in a pipe causes an increase in pressure [before, after] the narrowing and a decrease in pressure [before, after] the narrowing.

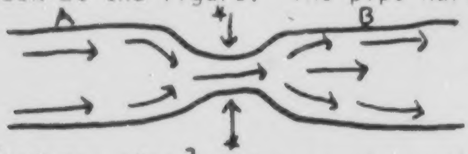
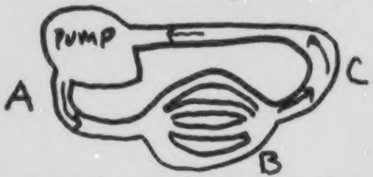


Table 2-11, continued.

16. The relationship between the size of pipe and its resistance to flow says: the narrower the pipe, the [greater, less] the resistance to flow.
17. Blood pressure is measured in the human body by balancing the pressure exerted by the blood in the arteries with the pressure exerted by a column of [water, mercury]. A reading of 140 means the blood pressure balances a column of mercury 140 ____________________ (give unit of measurement) high.
18. The pulse is suppressed in the capillaries. This occurs because 1) pressure [rises, falls] going through the capillaries and 2) the pressure wave loses energy as it moves away from, closer to the heart.
19.



In the figure, which pipe pulses? ____________

Which pipe suppresses the pulse? ____________

Which pipe does not pulse? ____________

20. Blood moves back to the heart through the veins. Pressure is very low so there are three main ways the blood's flow is aided. 1) Gravity - if your feet were swollen from too much fluid in the veins, you could use gravity to aid the fluid movement by [elevating, lowering] your feet. 2) Once blood moves up into the veins, the blood won't back up or slip back because of ____________________ which control the direction of flow. 3) The blood is also moved along by the contraction and relaxation of [muscles, arteries].

Table 2-12

Example of Student Assignments

PERSONALIZATION ASSIGNMENT:

Visit five patients. Go through the following steps with each one and talk about their responses in your class later.

1. Introduce yourself.
2. Ask them if this is their first hospitalization.
3. Orient them to their room if necessary.
4. Ascertain if there are any special food or other preferences or needs.
5. If they are to have tests or x-rays determine if they need information about them.

directed to student use with minimum teacher supervision, monitoring devices in clinical settings have not been developed. Time and scope limitations have also precluded the development of an evaluation strategy for functional outcomes of the instructional formats (Activity 6). It is anticipated that the effects of these materials will be evidenced by teacher observation of student competencies as the requirements of the Write-Say-Do outline have been incorporated in these materials. An outline of materials developed is included. (Table 2-13)

One Sample Learning Packet

The Learning Packet, Introduction to the Circulatory System in Appendix 2-1, is provided to illustrate one field-tested and revised packet of 6 to be used by students during the coming year.

Table 2-13

Outline of Materials Developed

A. Assessment - approximately 50 pages

1. Developmental and Environmental Safety Hazards
   slide and written material presentation
2. Observation-visual, aural, tactile and olfactory assessment
   slides and videotape, and written materials presentation
3. Communication - written materials
4. Consultation - written materials

The sub-concepts of evaluation, interpretation, intervention and re-assessment were not developed due to time limitations.

B. Personalization - approximately 35 pages

Videotape and written materials presentation

C. Intervention - The Circulatory System - approximately 130 pages

1. Introduction to the Circulatory system
   Written materials utilizing 2 experiments
2. Effects of Fluids under Pressure
   Written materials utilizing a demonstration model of the circulatory system
3. Pulmonary Circulation - written materials
4. Pulse and Blood Pressure Rates and Interventions - written materials
5. Failure of the Circulatory System - written materials
6. Conduction Theory - written materials

In addition to the above, a Basic Information packet was developed to help students orient themselves to new hospital settings. These materials will be available upon request to the M.H.C.C. A.D.N. faculty.

EVALUATION OF OBJECTIVE 2

The evaluation of Objective 2 (Table 2-14) shows an overall success of 91 percent while falling short of completion on only Activity 6. This activity could not be completed with the currently enrolled pupils because of the timing of development, date and course content. The functional outcomes will be assessed during the next term.

Table 2-14

Evaluation of Objective 2

Objective 2: Develop instructional logic that responds to the content of nursing as an applied science to the learner, to multiple entry and exit criteria and the utilization of faculty.

Planned Activities	Percent Completion	Justification of Evaluation
1. Program concepts for instruction	100%	See Table 2-1, 2-2, 2-3 experimental design.
2. Develop instructional strategies	100%	See Table 2-1 - Concept rule.
3. Develop instructional formats	100%	See Table 2-3, Concept rule example.
4. Write content items for selected course sequence.	100%	See Appendix 2-1 and Table 2-5, Demonstration Model.
5. Test the logic of instructional formats	100%	See Tables 2-6, 7, 8, 9 Feedback.
6. Develop evaluation strategy for functional outcomes of instructional formats	50%	See Tables 2-9, 11, Student Response.
Overall Evaluation	91%	Average percentage completion of Activities 1 through 6.

OBJECTIVE 3

IDENTIFY INSTRUCTIONAL MATERIALS NECESSARY TO PROVIDE TO THE LEARNER ALTERNATIVES FOR REACHING PERFORMANCE OUTCOMES.

PRODUCTS

- List of Alternative and Supplemental Materials for Assessment, Personalization and Intervention (Tables 3-1, 3-2, 3-3).
- List of resources needed to procure materials (Table 3-4).
- Alternative strategies and tactics for faculty utilization (Table 3-5).

PROCESSES

- Conduct search for alternative materials.
- Faculty Committee selection of categories.
- Construct and review listings.

Material Listings

To meet Objective 3, the project staff performed a series of activities to gather, sort, and list materials which could function as either alternative or supplemental instructional aides for the students in relation to the learning packets that have been developed and are described in Objective 2. The term "alternative" was used to mean materials other than those developed to be used by the student to attain competency. The term "supplemental" was used to mean materials which could be used by the student in conjunction with either the materials developed or the selected alternative materials.

The greatest number of alternative and supplemental materials was found in the area of intervention. Tables 3-1, 3-2, and 3-3 show each listing by alternative and supplemental materials. Appendix 3-1 lists additional personalization materials.

Resources for Materials

The second product derived from meeting Objective 3 is a listing of resources needed to obtain alternative and supplemental materials. Table 3-4 shows that approximately $300.00 is needed to purchase materials not available locally to ensure minimum access to alternative and supplemental materials to the packets that have been developed.

Faculty Modification of Job Allocations

The third product evolved while meeting Objective 3 is a suggested faculty work load and time distribution change. The modifications are shown in Table 3-5, Projected Change in Faculty Utilization. The projection is that if learning packets for all major concepts and performance outcomes were developed, the following changes would occur.

The major change would be in the role of the instructor from a primary source of information to a resource person. Blocks of time are now spent teaching in a classroom-lecture situation for approximately 40 students. With multiple resources for learning available, the instructor could be freed of the class time and be available to individuals or small groups of students as a resource person.

It is anticipated that there would be less need to re-test students in the laboratory. Given a variety of instructional materials, the student should be better prepared when demonstrating for evaluation of competence. Written tests should also require less re-doing, thereby reducing faculty grading time. The time available to serve as a resource person to individual students is increased by 7 hours per week per instructor due to the reduced time needed in these three areas: classroom, testing and grading. Assuming that the improved learning methods would reduce student problems, less time would also be spent in faculty meetings where such problems are discussed. Time previously used to prepare for classroom lectures could be applied to refining and adding to the learning packets and materials.

The faculty currently spends a minimum of 45 hours each week in work related activities. (See Final Report 5.2, 1973-74, Faculty Activity Analysis). This change would reduce the workload to a 40-hour week for each faculty member.

In general, the rationale for the reduced load and time is based on the notions that: 1) students will have multiple resources for instruction and guidance; 2) the conceptual logic sequence of programming will allow self-grading and rapid acquisition of content; 3) less student learning problems will occur; and 4) less time will be needed in presentation of content in a class situation.

Table 3-1

Assessment Areas - Materials Listings

1. Observation

Alternatives	Supplemental
	*Leifer, *Principles and Techniques in Pediatric Nursing* Media Library, Being and Will - *Notations on a Newborn* *Fuerst, *Fundamentals of Nursing* Itran Nsg. Ed. Filmstrip materials - *Assessment of the Patient*

2. Communication

Alternatives	Supplemental
	*Lewis - *Nurse-Patient Communication* *Hays - *Interacting with Patients*

3. Consultation

Alternatives	Supplemental
	*Beland - *Medical-Surgical Nursing* *Brunner - *Textbook of Medical-Surgical Nursing* *Luckman - *Psycho Physiological Nursing* *Smith and Gips - *Care of the Adult Patient*

(*Available from M.H.C.C. Library)

Table 3-2

Personalization Areas - Materials Listing

1. Information Gathering

Alternatives	Supplemental
	*Nordmark, Scientific Foundations of Nursing

2. Asks

Alternatives	Supplemental
	Nordmark, Scientific Foundations of Nursing

3. Offers

Alternatives	Supplemental
	Nordmark, Scientific Foundations of Nursing

4. Gives

Alternatives	Supplemental
	Nordmark, Scientific Foundations of Nursing

(*Available from M.H.C.C. Library)

Table 3-3

Intervention Areas - Materials Listings

1. Circulatory System

Alternatives	Supplemental
	*Anthony and Kolthoff - Textbook of Anatomy and Physiology *Gragg and Rees - Scientific Principles of Nursing

2. Fluids Under Pressure

Alternatives	Supplemental
	*Best and Taylor, The Living Body *Cleveland, John, Physical Science *Selkurt, Ewald, Physiology

3. Pulmonary Circulation

Alternatives	Supplemental
	*Guyton, Basic Human Physiology *Thomas, Life Sciences for Nursing and Health Technologies

4. Pulse and Blood Pressure Rates

Alternatives	Supplemental
*McInnes, Mary, The Vital Signs *Trainex Educational Film Strip Series, Temperature, Pulse, Respiration	

5. Failure of Circulatory System

Alternatives	Supplemental
	*Gragg and Rees, Scientific Principles of Nursing

6. Conduction Theory

Alternatives	Supplemental
	*Selkurt, Physiology *Guyton, Basic Human Physiology

7. Safety Hazards

Alternatives	Supplemental
	*Dison, An Atlas of Nursing Techniques *Kozier, Introduction to Patient Care

(*Available at M.H.C.C. Library)

Table 3-4

Required Resources for Alternative and Supplemental Materials

Assessment Areas		
Observation	Media Library, Notations on a Newborn	$150.00
	Itran, Assessment of the Patient	150.00
	Sub Total	$300.00
Personalization Areas		
	Identified materials available from M.H.C.C. Library. No expenditure anticipated.	
Intervention Areas		
	Identified materails available from M.H.C.C. Library. No expenditure anticipated.	
	TOTAL	$300.00

Table 3-5

Projected Change in Faculty Utilization Due to The Availability of Alternative Instructional Materials

Faculty Activity	What has been		What will be		Change	
	# Students	Total hrs/week	# Students	Total hrs/week	# Students	Total hrs/week
Classroom Lecture-Demonstration	40	5	--	--	-40	-5
Clinical Descriptions	10	9	10	9	--	--
Lab Skill Testing	10	5	5	3	- 5	-2
Resource Advisor	1	5	10*	12	9	+7
Grading	N/A	6	N/A	3	--	-3
Faculty Meetings	N/A	4	N/A	2	--	-2
Clinical Planning	N/A	2	N/A	2	--	--
Class Preparation	N/A	9	N/A	2	--	-7
Further Refine Learning Packets	N/A	--	N/A	7	--	+7
	61	45	25	40	-36	-5

N/A - Not Applicable
* The student-faculty ratio = 10:1

The objective of identifying instructional materials, necessary to provide the learner alternatives for reaching the performance outcomes specified in the learning packets, has been reached. Two additional needs for program improvement were also identified: first, additional resources for alternative and supplemental materials; and second, it is projected that with more learning packets, faculty time could be better allocated to assisting students to reach performance outco[illegible] in minimal time. Learning packets will have to be developed, field-t[illegible]ed, revised and published for rapid student consumption. A continual search will be needed for alternative and supplemental materials related to these learning packets.

EVALUATION OF OBJECTIVE 3

The overall evaluation of Objective 3 is found in Table 3-6. The evaluation rating of 86 percent completion is the average of how well each planned activity was carried out. The objective could have been fully met if the amount of required resources could have been anticipated. A national survey of materials could have been beneficial for fully completing this objective.

Table 3-6

Evaluation of Objective 3

Objective: Identify instructional materials necessary to provide to the learner alternatives for reaching performance outcomes.

Planned Activities	Percentage Completion	Justification of Evaluation
1. List available resources related to developed instructional formats.	75%	See Tables 3-1, 2 and 3. Sources used locally - need national search.
2. Identify resources needed to provide desired instructional materials.	70%	See Table 3-4 Estimated 1975 prices.
3. Develop alternative strategies for utilization of faculty.	100%	See Table 3-5 Based on efficiency study.
4. Develop tactics for actual faculty utilization.	100%	See Table 3-5. Based on planned use of faculty time.
Overall Evaluation	86%	Average Percentage Completion of Activities 1 through 4.

OBJECTIVE 4

DEVELOP BEHAVIORAL ENTRY CRITERIA FOR LEARNERS

PRODUCTS

- Strategy for rapid assessment at program entry (Figure 4-1).
- Behavioral outcomes at aide exit level (Aide Performance Criteria Section). (Appendix 4-1)
- Behavioral outcomes at L.P.N. exit level (L.P.N. Performance Criteria Section). (Appendix 4-2)
- Critical elements in patient care (Appendix 4-4).

PROCESSES

- Define Rationale and Procedure
- Refine Performance criteria for Aides and L.P.N.'s
- List Requirements to Challenge Course
- Test for Patient Care Performance

Rationale and Procedure

The National League for Nursing position paper of November, 1970, established the need for flexible curricula in nursing which provide upward and lateral mobility for persons seeking careers in nursing. The National Commission for the Study of Nursing and Nursing Education, in its Summary Report and Recommendations, states that it is essential that planned and articulated curricula be developed to turn out graduates with optimum capability for nursing care while also facilitating the career mobility of individuals in these programs. The report describes individualization, articulation and concentration as emergent forces in nursing education and a vital concern in the reconstruction of our health care system. Nursing education literature is giving increasing consideration to career "ladders", "options", "movement", and open-curriculum.

The Mt. Hood Community College Nursing Program has developed a curriculum based upon competency through performance, using the Precise Behavior Management Systems Model which allows for daily counting and recording of a variety of behaviors and feelings, as well as quarterly cumulative computerized data storage, analysis, and feedback.

Because the curriculum is based upon precise performances, it allows for multiple entry and exit and for self-pacing by students. Students are given credit for competent performances, regardless of where the competencies were learned.

Since Mt. Hood has adopted a model whereby learners demonstrate behaviorally the acquisition of course content, nursing students with prior experience can be given advanced standing if they demonstrate competence in nursing skills and concepts above entry level.

The purpose of this objective is to develop a strategy for rapidly assessing performance of the nursing student at program entry. This assessment is seen as necessary in order to place the entering nursing student within the proper nursing level as dictated by his/her demonstration of competence.

Four members of the nursing faculty and one member of the nursing grant staff met together in a series of meetings to further define competencies expected of the learner within each level; Aide, Licensed Practical Nurse (L.P.N.), and Registered Nurse (R.N.), of the Mt. Hood Community College Nursing Program. The group then generated a testing procedure to be used in assessing the prospective students' competence level within this hierarchy of nursing competencies.

At Mt. Hood Community College, there is a program separate from the A.D.N. program, that prepares Nurse Aides for Certification in one term. A list of the skills acquired in this program was used to determine the first level in the A.D.N. program. In the A.D.N. Program, the aide skills are not acquired by the majority of students until the end of the second term as opposed to one term in the Aide program. However, A.D.N. students are tested for proficiency and conceptual understanding of the scientific basis of their nursing techniques thus, the extended time difference. In addition, students in the A.D.N. program learn skills in relation to assessment, communication and nutrition during these two terms; in the one-term program for Aide preparation, these skills are not taught. The skills acquired during the first two terms of the A.D.N. program were listed under one of the following basic human needs: mobility, nutrition, elimination, safe environment, hygiene and grooming, and fluids. Following the same format, the additional behavioral competencies required at the L.P.N. level were listed. These skills are acquired within two additional terms, or a total of four terms. In most cases, students with previous nursing experience entering our program have been Aides or L.P.N.'s. In-depth knowledge is required with acquisition of each skill in the program so that the student may advance into the second level for R.N. preparation with minimal repetition. Skills not common to most L.P.N. programs are presented in the third term of the M.H.C.C. program. The faculty decided that most students wishing to attempt advanced entry would select situations including first term skills or first and second term skills. It was decided that to plan for testing at these two levels of skills would fit most student's level of ability. Therefore, the decision was made to defer identifying the competencies expected at the R.N. level and to proceed with developing a strategy for rapid assessment into the Aide and L.P.N. level. The Refinement of the Aide and the L.P.N. Performance Criteria are found in the Appendices (Appendix 4-2 and 4-3).

The methodology and format developed by the University of the State of New York External Degree Program in Nursing for testing clinical competence seemed very adaptable to testing for skill level at entry. The External Degree Clinical Performance in Nursing Examination specified special care areas to include in the testing situation with critical elements to be demonstrated in relation to each area. The nursing care areas specified were the same as the basic needs area identified by the M.H.C.C. faculty. In the M.H.C.C. program, a written concept test has been required prior to skill demonstration. Nursing actions considered essential to a skill had been starred on each grading key. These essential actions are the "critical elements" to be observed in performance and were taken from these keys. In addition, many "critical elements" from the External Degree tests were adapted because they were so well stated.

Following the plan of the University of the State of New York, the decision was made that written tests must be passed successfully prior to skill demonstration. Rather than prepare special tests, it was decided that each challenging student would be given the course(s) syllabus which includes all of the competencies required in the Write-Say-Do format (Appendix 4-3).

The requirements for challenge were then specified as follows:

Course Challenge Requirements

Application:	A student who wishes to challenge fall and/or winter quarter of the first level in the A.D.N. career ladder must submit a written request to the faculty. Only those persons with previous nursing education, and experience will be considered.
Preparation:	Contingent upon faculty approval of the challenge, the student will receive the syllabus for each course to be challenged within which are the Write-Say-Do competencies.
Written Examination:	The challenger must take and pass without errors, timed written concept tests to be randomly selected by a faculty member from the Write column of the course syllabus in relation to each nursing area.
Written Failure:	In view of failure on the first testing, the challenger may retake the written examination with questions again drawn randomly. If unsuccessful in the second attempt, the student must proceed to demonstrate competence as stated in the course syllabus, as students do with no previous experience.

Written Success: Upon successful completion of the written tests, the challenger will be tested for performance in caring for 2-3 varied patient care situations to include children.

Performance Examination

The patient care performance will be tested in a clinical setting and will include both adult and child care situations. The setting and patient will be selected by the faculty evaluator. The nursing areas to be tested are listed in the Performance Challenges (Table 4-1). The performance examination will consist of two phases: (1) Planning which includes preparation of a written nursing care plan, (2) Implementation in which the evaluator will observe the challenger for performance of the critical elements in the areas of care required by the patient (Table 4-1). Each phase must be completed as specified before proceeding to the next. Failure to pass the first phase will mean termination of the examination. Following are the requirements for each phase in the performance examination.

Planning

After receiving the patient assignment, students are to spend 15-20 minutes gaining an awareness of the kind of nursing care the patient needs, visit the patient, use the Kardex, read the chart, and get a report from the Team Leader or Head Nurse. Then the student is to write a nursing care plan (NCP) for each patient care situation (PCS), using the following guidelines:

a. Identify and list the patient problems.

b. List the specific nursing actions required to meet the nursing needs of this patient, incorporating action to effect safety, comfort and personalization. Identify the concept being applied by letter - S for Safety, C for Comfort, P for Personalized, by each action.

Table 4-1

Performance Challenges
Adult and Child Situations

Required Areas of Nursing Care	Selected Areas of Nursing Care	
1st and 2nd Terms	1st Term	2nd Term
1. Mobility	1. Restraints	4. Drainage tubes
2. Hygiene and grooming	2. Special Mouth Care	5. Specimen collection
3. Fluids	3. Vital Signs	6. Clinitest
4. Nutrition		7. Acetest
5. Elimination Institutional Modification		8. Heat or cold applications
6. Observation		9. Pre-operative teaching
7. Legal Aspects		10. Cough and deep breath
		11. Leg Exercise - post operative
		12. Enemas and Glycerine suppositories
		13. Checking levels of consciousness
		14. Isolation precautions

c. When you have completed the NCP (within the stated 20 minutes), take it to the Evaluator for approval.

d. The method of obtaining information for the nursing care plan will not be evaluated.

e. After approval, proceed to the implementation phase.

f. If a candidate fails the planning phase of a patient care situation, that PCS is terminated and failed.

g. The burden of proof for failing a candidate in the planning phase rests with the Evaluator. Supportive evidence must be in writing.

Implementation

The implementation phase consists of the actual nursing care given to patients. This care is divided into two designated categories: Required Areas and Selected Areas of nursing care (Table 4-1).

The patients chosen for persons challenging Nursing 101 and Nursing 106 will present 4-5 Required Areas of care and 1-2 Selected Areas of care. The patients chosen for persons challenging four courses (Nursing 101, 106, 102 and 116) will present 5-6 Required Areas of care and 2-3 Selected Areas of care. Because of their fundamental importance, five overriding concepts must be applied and will be evaluated in each patient care situation in addition to the Required and Selected Areas. These include the following concepts to be effected as described:

1) safety - maintain self and others free from harm and potential hazards.
2) comfort - make, keep, and leave each person as free of want, need or discomfort within the abilities of the student.
3) personalization - maintain the dignity of each person as an individual and adjust services to his or her personal needs and concerns.

4) teaching - provide another person with adequate information so that he/she may know what to expect and how to participate prior to, during, and following each event affecting him/her.

5) efficiency - works effectively to conserve time, energy and materials for patient, self and others involved (family, staff, institution).

Equipment, supplies and procedures may be unfamiliar and the challenger should read directions on labels and try to figure out how to use them. If help is needed, consultation with the nursing staff is permissible. The evaluator will obtain the needed materials prior to the beginning of the PCS. In any case, challengers are responsible for performance of the related critical elements rather than for a particular way of doing things.

The procedure for evaluating the accuracy of vital sign measurement will be:

1. Vital signs will be taken simultaneously by challenger and evaluator.
2. The challenger should signal when starting to count one of the vital signs and begin with zero.
3. To assure an accurate reading, the challenger is urged to count (or measure) the pulse, respirations and blood pressure twice BEFORE comparing the findings with the Evaluator.
4. Extremely rapid pulse and/or respirations may best be counted for 15 seconds. Markedly irregular pulse/respirations may require a full minute. If excessive difficulty is encountered because of marked deviations from normal, the challenger should consult with the Evaluator.

Criteria for Success

The care given by the challenger is evaluated according to the critical elements. All of the critical elements in any given area must be performed satisfactorily to pass a PCS.

A list of the Critical Elements and a definition for each Required and Selected Area of the Patient Nursing Care performance (Table 4-1) is in Appendix 4-4.

The challenger must complete all aspects of the Patient Care Situation (PCS) within 2½ hours. Failure to do so will result in failure of that PCS.

When the patient, (or something in the environment) prevents the completion of an area of nursing care, the challenger will be judged on initial efforts and activities directed toward accomplishing the critical element(s) for that area of care. To avoid confusion, the challenger should clarify such situations with the Evaluator.

When there is reasonable doubt whether a given action violates an aspect of care in a PCS, the Evaluator will allow the challenger to proceed but at the end of that PCS will consult with one or more Evaluators prior to making a decision. The challengers will be permitted to continue the care unless there is direct or immediate jeopardy to the patient. The judgment of the Evaluator(s) is final at that time. If the challenger disagrees with that judgment, a written appeal may be presented to the Faculty within two (2) days of the PCS in question.

After completing the implementation phase, the challenger should remember to review the Nursing Care Plan (NCP) to be sure that all necessary nursing care has been given. Once the NCP is submitted to the Evaluator, the PCS is terminated and no additional actions related to that PCS will be permitted.

In reviewing the nursing care plan, the challenger should add suggested changes including at least one continuing need for nursing action with rationale for decision. Any change made in the nursing care and/or priority(ies) during the implementation phase should be reflected in the challenger's assessment of the nursing care plan.

Completion of the implementation, for the first term challengers, should include reporting: (1) any care given, (2) any unusual response to care given, and (3) any observations of the patient's condition that could influence subsequent care. In addition to reporting, second term challengers should record this information. Recording must be concise, legible and stated in correct terminology.

Termination of a PCS Without Penalty:

The challenger will be assigned to another PCS with a new patient, if the evaluation of a PCS is terminated for any one of the following reasons:

1. An extreme change in the patient's condition which interrupts the usual flow of nursing care.
2. An extreme change in the environmental conditions of the setting which interrupts the usual flow of nursing care.
3. The candidate is too ill to continue with the PCS, in the opinion of the evaluator.

Termination of a PCS With Penalty:

The candidate will fail a PCS if the evaluation of that PCS is terminated for any one of the following reasons: (please note carefully)

1. Failure to comply with any one of the guidelines in the planning and evaluation phases.

2. Omission or incorrect performance of any one of the critical elements in the implementation phase.
3. Unsafe actions or inactions related to patients on the part of the challenger at any point during the PCS.
4. The patient's safety or physical well-being is jeopardized.
5. The patient's emotional well-being is jeopardized.
6. The candidate terminates the PCS before completion without a valid reason (in the judgment of the Evaluator).

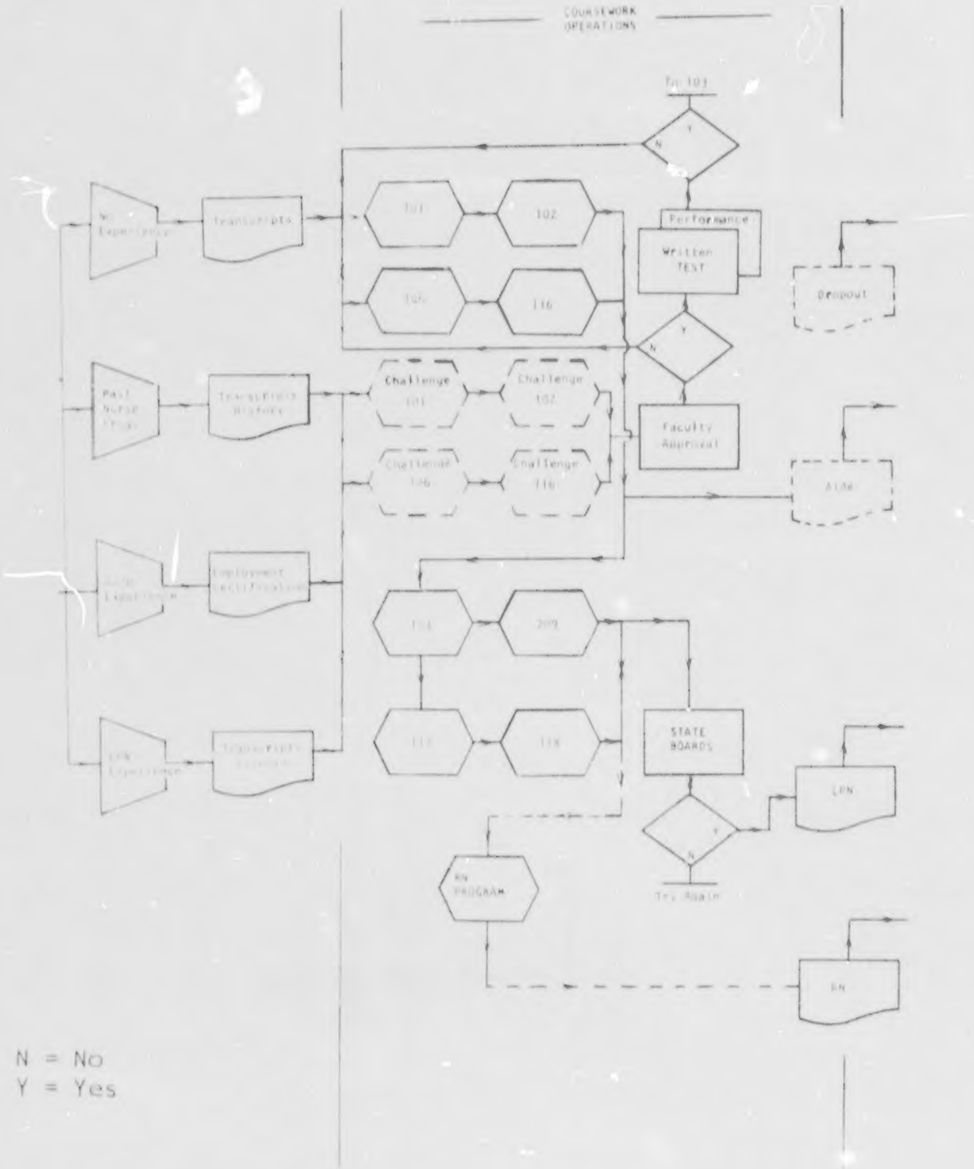
Three patient care situations out of a possible four must be passed in order to receive credit for the courses challenged. The scope of the three patient care situations is proportional to the level challenged, i.e. a student who is challenging Nursing 101 and 102 will have more required and selected areas in the patient care situations than a student who is just challenging Nursing 101 (Table 4-1). No more than two patient care situations would be planned for one day.

Successful Performance

Having successfully completed both the written and performance examinations, the challenger will be given credit for those courses challenged and may register and commence with the next sequence of courses.

Figure 4-1 shows different possibilities for progression through the program. The progression for students, with previous experience or education, who challenged coursework, is shown. In Figure 4-1, the courses in the second year have not been identified because these courses may not be challenged at this time, however, a student still can complete the coursework at his/her own pace or take more than the usual number of courses in one term

Figure 4-1


COURSEWORK OPERATIONS
No Experience
Transcripts
Past Nurse Trng.
Transcripts History
Aide Experience
Employment Certification
LPN Experience
Transcripts
101
102
106
116
Challenge 101
Challenge 102
Challenge 106
Challenge 116
To 103
Y
N
Performance
Written TEST
Faculty Approval
Dropout
Aide
209
STATE BOARDS
Y
N
LPN
Try Again
RN PROGRAM
RN
N = No
Y = Yes

(fast pace). Therefore, students may continue through the program at their own pace, dependent upon their abilities and persistence.

This strategy for rapid assessment is yet to be tried and evaluated. It is anticipated that refinements will be necessary.

The refinement of the R.N. performance criteria is planned for in a Faculty Workshop in the 1975 Fall Term.

EVALUATION OF OBJECTIVE 4

Table 4-2 shows that the activities of Objective 4 were 72 percent successfully completed. This low score, relative to the other objectives of this project, was due primarily to relative lack of analysis to date for content-free behavior related to success. Continued work on the (nursing) content-free admission screening procedure (Objective 5) by the Nursing Staff will remedy this inadequacy.

Table 4-2

Evaluation of Objective 4

Objective: Develop behavioral entry criteria for learners.

Planned Activities	Percent Completed	Justification for Evaluation
1. Develop strategy for rapidly assessing performance of the learner at program entry.	90%	The 10% reduction is due to not completing the R.N. levels.
2. Analyze present program data for content-free behavior related to success.	25%	The 75% reduction is due to a lack of content-free (non-nursing area) data. Analysis is included in Objective 5.
3. Develop tactics for future development and testing of entry performance.	100%	All tactics were completed in Critical elements section for Aide and L.P.N. levels.
Overall	72%	The total amount of reduction, 28% is largely due to the content-free data shortage.

OBJECTIVE 5

INTERFACE ENTRY AND EXIT CRITERIA WITH COLLEGE ADMISSION, PLACEMENT, REGISTRATION AND TRANSCRIPT PROCEDURES AND POLICIES.

PRODUCTS

- Experimental Screening Tool for program admission (see Learning Screening Section for description)
- Transcript reflecting learner competencies (Figures 5-3 and 5-4 and Table 5-2)
- Registration procedure permitting student movement from course to course anytime during the school year (see Registration Section for description)

PROCESSES

- Establish an advisory task force
- Design admission procedure
- Design placement procedure
- Design transcript reflecting competence
- Design registration procedure

This objective responds to the problem of integrating a competency based program into an institution whose procedural and record keeping structure has been based on a more traditional model. The activities stated in this objective were designed to develop a mechanism to accomodate the prospective student in application, placement and registration in a competency based program, and also to design a transcript that would reflect attainment of competencies.

Task Force

A task force made up of the following personnel was established:

1. Director/Academic Affairs
2. Dean of Student Services
3. Director/Admissions and Records
4. Allied Health Division Chairman
5. Nursing Faculty - 3 members
6. Research Project Staff - 2 members

During the 1974-75 school year, this task force met periodically to design an admission procedure for the competency based nursing program. Primarily, this task force was to define problem areas and offer suggestions for solving these problems.

Admission Procedure

The first task before this group was to design an admission procedure for the competency based nursing program. That is, to outline the course a prospective student would take in applying and gaining acceptance into the program. While this activity appeared straightforward at the outset, it became immediately apparent that the real task was to define selection criteria for the program.

The A.D.N. program is one of 28 programs at Mt. Hood Community College with selective admission procedures. While the faculty feels that selective admissions are inherently discriminatory, they realize also that it is not realistic to teach nursing to individuals who have gross academic, personality and/or physical deficits. This is true particularly in view of limited space and resources available to the program.

Therefore, it was felt that while it might not seem directly related to the objective, specifying selection criteria was imperative. In order to know what information the applicant should be asked to submit, it is necessary to have clearly stated selection criteria, i.e. if past academic achievement was a factor in selection, then it would be necessary to ask the applicant to supply transcripts from previous academic work.

The selection procedure currently used in the A.D.N. program lacks clarity. (See Appendix 5-1). There is a well-defined sequence for obtaining application materials and for enrolling in courses. However, the process in between, evaluation of application materials i.e., transcripts and references, by the nursing faculty is ambiguous and for lack of established guidelines, prone to subjectivity. Also it was felt, by nursing faculty task force members, that the current evaluation and selection process was cumbersome and far too time consuming. The task force concurred that change in the process was definitely in order.

It should be noted that a rigorous study in predictive selection criteria has been planned for the near future. Notoriously high attrition rates in schools of nursing have prompted much research addressing more comprehensive and effective selection of students. The studies in the literature seem to take two general tracks. One track is the identification of background characteristics (personality and academic) in prospective students that might predict successful completion of a nursing program (Burgess, Duffy and Temple) and the second route is to administer a battery of standardized tests, and to compare scores between those students who complete a program and those who drop out (Levitt, Lubin, DeWitt). Both approaches attempt to create some kind of profile, academic and/or personality, that would define the dropout, or potentially successful candidate. Though some success has been reported by investigators, the results are often inconclusive and conflicting from study to study. Even where success is reported, the cost in resources and staff time that would be necessary to implement the procedures investigated, i.e. administering batteries of tests or collecting exhaustive background information on each applicant, would not be justified in view of the limited success experienced by investigators. In many cases, the restricted parameters, of the samples used, cast doubt on the generalizability of results to the Mt. Hood program. Therefore, the Mt. Hood program will conduct its own study on predictive selection criteria (detailed in a later section of this report). First, it is necessary to outline the problems seen by faculty in the current selection process.

Task Force Identification of Admission Problems

This part of the investigation involved primarily nursing faculty and project staff task force members.

One of the major problems identified is the number of applicants to be considered. Over the past two years the number of applicants to the program has averaged around 350 a year. This number represents all students who complete and return application materials by the March 1 deadline. Available space and resources within the program will accomodate approximately 40 new students each year. Under the current system, A.D.N. faculty are responsible for evaluating all application materials as well as scheduling and conducting orientation sessions of 10-12 students involving each of the applicants. After the information is gathered and evaluated, selection is made on the basis of faculty ranking.

A second problem is that the program lacks a statement of minimum qualifications for acceptance. This means that unqualified applicants may reapply year after year without upgrading their credentials in any way. Also, at present there is no mechanism for feeding back to rejected applicants the reason for their rejection, allowing them an opportunity to upgrade their acceptability before reapplying. While some very qualified candidates must be eliminated for lack of openings in the program, in many cases rejection is based on a specific deficit and if the applicant could be informed of this, he/she would not repeat the entire application process without correcting the problem area.

A third problem was felt to exist with regard to faculty evaluation of student transcripts, references and participation in an orientation session. For lack of clearly stated guidelines, these evaluations can become subjective and inconsistent.

There exists a fourth problem of students who,after program entry, simply cannot handle the academic or emotional demands placed upon them. These students are continually in need of special tutoring and guidance. An example, is the student who can perform at competence level in the laboratory setting but becomes too anxious to perform safely in clinical settings. The student does not generalize from setting to setting or does not maintain (retain) skills over time. It was felt that some thought should be given this problem in building selection criteria.

An additional problem was identified that exists for both the A.D.N. program and other services on campus that are also responsible for nursing admissions and selection; Admissions Office, Counseling Center, and Academic Affairs. That is, with no clearly defined selection criteria, inquiries and/or complaints from applicants cannot be responded to satisfactorily. Much confusion exists as to what is really looked for in the potential nursing student. Also, it is felt by both the faculty and personnel in these support services, that some of the burden of selection could be taken off of the program personnel and handled in the appropriate sector, if more precise admission criteria were available for initial screening of applicants.

Summary of Problems

In summary, it was felt that a restatement and revision of selection criteria and procedures should respond to the following problems:

1. Present system is too time consuming and cumbersome for faculty due to number of applicants.
2. Unqualified applicants receive no feedback justifying their rejection and reapply with no upgrading of credentials.
3. Subjective faculty evaluation occurs due to the lack of clearly established guidelines and criteria.
4. Students who have academic and emotional problems are selected into the program.
5. Clarification is needed to improve working relationships with college services involved with A.D.N. admission and selection procedures.

While identification of these problems pointed out a definite need for some change, the group concurred that it was not desirable to alter criteria to discriminate against applicants of differing abilities; that it was necessary only to spell out the minimum criteria for entry and all applicants meeting that minimum level would be considered acceptable. In other words, the selection procedure should not "cream" the 40 top applicants but should allow for a cross-section of abilities.

Recommendations

In response to these identified problems, a series of meetings were held with the nursing faculty. Putting currently used evaluation criteria into writing would respond to at least some aspects of each problem cited.

The need for an initial screening device or procedure was seen as imperative. In written form, a screening procedure would assist candidates in eliminating themselves before application, decreasing numbers, and would provide both Admissions and Registration and Counseling a tool to use in advising students.

Transcripts and past academic records have been used as screening tools. Studies by Wittmeyer, Camiscioni and Purdy (1971) and Burgess, Duffey and Temple (1972) both show G.P.A. to be the single most significant variable in predicting collegiate nursing G.P.A. While no sweeping generalizations can be drawn from the results reported in these studies, it is evident that G.P.A. has been reinforced as a useful tool in the selection process.

The recommendation was made to utilize transcripts of previous academic performance as a screening tool. It was confirmed by the Director of Admissions and Records that his office could take responsibility for evaluation of transcripts once minimum criteria was set. The faculty outlined the following guidelines for transcripts considering both the grades received and the courses taken:

If the academic work has been completed within the last ten years:

1. Applicant must have a 2.5 G.P.A. from high school with minimum of "C" grade in Chemistry or comparable course and "C" in beginning Algebra

   OR

2. A 2.0 G.P.A. from college or university studies including the math and science listed above.

If transcripts do not meet these standards, or work was completed over ten years ago:

3. The applicant must take Anatomy and Physiology, Chemistry and English receiving a grade of at least "C" to be considered or they must pass a challenge exam in these subjects.

Applicants applying with a G.E.D. taken within the last 10 years must have a passing score of 51 or complete the same requirements outlined above to be considered.

The rationale for requiring the remedial measures for those whose transcripts did not meet the stated standards, was reinforced by Wittmeyer, Camiscioni and Purdy who suggest a more positive approach to "screening out" applicants. They stated, "The data from this study suggest two ways of resolving this situation via the more positive approach of curriculum change. The applicant pool from which nursing students would be selected would consist of individuals who: 1) Have successfully completed the sequence of related science courses; 2) Have gained some additional insight into the nursing profession."

An additional screening tool was suggested that would provide a measure of basic academic ability. The College Qualification Test or C.Q.T., would be administered to all applicants whose transcripts met the established standards.

Warren G. Findley, Professor of Education and Coordinator of Educational Research at the University of Georgia, reviewed the C.Q.T. for the Sixth Mental Measurements Yearbook. He states, "To the degree that this reviewer is correct in the supposition that the predictiveness of reading comprehension and quantitative reasoning tests is attributable to the fact that rudimentary instruction in both areas has been generally available to those who have completed high school and that excellence on these tests reflects one's motivation and ability to learn these 'basic' skills, a well constructed test of information may likewise be said to achieve its predictiveness by reflecting students' motivation and ability to learn equally 'basic' substantive knowledge". Citing earlier reference to the numerical subtest as "a power test of problem solving ability based on fundamental concepts" Findley suggests that the C.Q.T. is an instrument that has value in measuring both motivation and problem solving ability. He further finds the C.Q.T. subtests "appropriate for selective admissions" and states that "Users may rely on this instrument as sound and in some ways unique."

Ralph F. Berdie, Professor of Psychology and Director of Student Counseling Bureau, University of Minnesota, a second reviewer, states "The C.Q.T. is as adequate for identifying, admitting, classifying and counseling college students as any other college aptitude test."

The comments of both reviewers seemed to indicate that the C.Q.T. might well be useful in testing the areas important in selecting nursing students for the Mt. Hood Community College program. The Director of the college counseling office recommended this test and provided copies for examination.

It was recommended further that a score of less than 30 percentile in any of the four areas tested by the C.Q.T.; numerical, social science, science, and verbal, indicates a need for remedial work in that area. Thirty percentile and above then, was chosen as the range in which students would be considered eligible for the program.

Thus, an initial screening procedure was recommended that responds to the problems stated by the Task Force. Numbers of applicants will be decreased; other campus services will take on a part of the screening and admission process; applicants will know minimum qualifications and reason for rejection; objective evaluation will result from clearly stated guidelines; students will be pre-tested for academic ability and all concerned will be aware of the procedures and criteria so confusion will be lessened. See Appendix 5-2, (1975 Selection Procedure).

Nursing Screening Project (Predictive Selection Study)

Historically, faculties in nursing programs have attempted to find ways to reduce the attrition rate below the national average of 33 percent.

Purpose

The purpose of this project was to lay the foundation upon which to empirically study procedures for decreasing the dropout rate in the Mt. Hood Community College A.D.N. Program (See Table 5-1).

Data Findings

For the past several years, the Mt. Hood Nursing Program has amassed large amounts of descriptive data on the behavior of the students it serves. The logical starting point was to analyze available data to find variables that predict dropout behaviors.

Table 5-1

1972-75 Enrollment and Annual Dropout Rate

Quarter	# Students Registered	#Dropouts	Annual % Dropout
1972-73 Fall	57	4	
Winter	54	6	
Spring	48	9	
Summer	39	0	33%
1973-74 Fall	70	16	
Winter	54	4	
Spring	50	1	
Summer	41	0	30%
1974-75 Fall	65	14	
Winter	51	7	
Spring	44	-	(32% To date)
Summer	41*	?	

*Discrepancies between the number of students registered and the number of dropouts shown for the previous term is due to the early graduation of fast pacing students from the program or students entering the program other than fall term.

The following data were analyzed and found inconclusive in predicting which students would drop out of the Mt. Hood A.D.N. Program:

1. Frequency of performance on math computation skills
2. Initial faculty rating on a 5-point scale
3. Whether a student was "first choice" or an alternate
4. Marital or family status
5. Best weekly learning on four selected behaviors during the first quarter
6. Best final performance on four selected behaviors during the first quarter
7. Effectiveness of change procedures on learning for four selected behaviors during the first quarter.

The ineffective predictors of program dropouts listed above were described in detail to the faculty during the April, 1975 meeting. More details are available upon request.

When comparing students who dropped out of the Mt. Hood A.D.N. Program to graduates, the following slight differences were noted:

1. Dropouts were slightly younger
2. Dropouts emitted slightly less effort collecting summative and formative data in terms of:
    a) fewer projects
    b) fewer daily performance measures
    c) fewer recorded minutes
    d) fewer attempts to improve behavior

While these differences existed, they were quite small and by no means significant.

Two categories of information successfully differentiated dropouts from graduates. The first category is descriptive intake data and the second formative first quarter data.

1. Descriptive intake data showed:
    a) Eighty-eight percent of those students with high school G.P.A.'s lower than 2.5 (on a 4-point scale) dropped out.
    b) Eighty-seven percent of those students earning lower than a "C" in high school Chemistry dropped out.
    c) One hundred percent of those students earning lower than a "C" in high school Algebra dropped out.
2. The continuously recorded first quarter data of A.D.N. students showed that graduates made decisions that were (significantly) more immediately effective in improving their academic performance than dropouts. In other words, the behavior of graduates was more immediately adaptive to new environmental settings than dropouts.
    a) Seventy-eight percent of the graduates were above the class average in terms of the immediate effectiveness of environmental changes while,
    b) Seventy percent of the dropouts were below the class average.

To summarize, entering students with G.P.A.'s below 2.5 (on a 4-point scale) and having received lower than a "C" in high school Chemistry and/or Algebra are high probability dropouts. Further, students below the class average in terms of immediate adaptability to new environmental settings tend to be high probability dropouts.

These preliminary data permitted the Mt. Hood Nursing Faculty to make two data based decisions about procedures for accepting students into the

A.D.N. Program. These two decisions, minimum entry criterion (with options) and the exploration of immediate adaptability or short term learning are detailed below.

Faculty Presentations

Late in April, 1975, representatives of International Management Systems met with the A.D.N. Faculty presenting the findings listed above and nine viable screening alternatives which were discussed in light of the college admission policy. Learning Screening was discussed as an alternative method for identifying potential dropouts.

Nine Screening Alternatives

Nine screening design alternatives discussed in detail:

1. Randomly select program students
2. Randomly select twice as many students then screen
    a) use screening data to select the "best bet" students
    b) select students evenly distributed along the screening continuum
    c) use screening data to select 50 percent of the students and select the other 50 percent randomly
    d) randomly select students but analyze screening data's predictive value after the fact, at the end of the first year
3. Screen all applicants then
    a) use screening data to select the "best bet" students
    b) select students evenly distributed along the screening continuum
    c) use screening data to select 50 percent of the students and select the other 50 percent randomly

d) randomly select students but analyze screening data's predictive value after the fact, at the end of the first year

College Admission Policy

College Admission Policy was clarified by the following two points:

1. All criterion had to be set early so they would appear in the College's literature to inform students of admission policy
2. The College supports an 'open door' admission policy

Learning Screening

Data from the 1973-74 Final Report reproduced here as Figures 5-1 and 5-2 show two important facts. First, that in terms of beginning or initial performance, dropouts were not different from their graduating peers. This fact implies that performance tests as screening devices will not identify potential dropouts. The second and more exciting fact is that dropouts showed slower learning than their peers while in the program. This fact implies that screening devices designed to identify potential dropouts should measure learning.

Learning screening is designed to measure learning during a two-week period. The question is whether or not a two-week measure of learning predicts long term learning, which in turn identifies dropouts. This is the question to be answered in the Predictive Selection Study.

Faculty Decisions

The Mt. Hood A.D.N. Faculty made short and long term decisions about admissions into the program. First, they outlined a student selection policy for the 1975-76 school year that would comply with published college policy. Also, this selection procedure forms the first year of a three-year plan for

FIGURES 5.1 AND 5.2 WERE REMOVED FROM THIS DOCUMENT PRIOR TO ITS BEING SUBMITTED TO THE ERIC DOCUMENT REPRODUCTION SERVICE.

systematically evaluating the validity of using Learning Screening to decrease the current dropout rate.

1975-76 Admission Policy (See Appendix 5-2)

1. The faculty chose the following policy:
    a) Students meeting minimum G.P.A. criterion would be acceptable.
    b) From the pool of acceptable students, a random selection procedure would determine final admission (and alternates).
    c) During the orientation week or during the beginning of the first semester, all admitted students will participate in the 10-day Learning Screening procedure.
    d) The data, not used in the admission procedure, will be analyzed at the end of the school year to assess its accuracy in predicting dropouts.
2. Reasons for the policy were as follows:
    a) Minimum criteria were unanimously agreed upon, offering students replacement options.
    b) The Faculty unanimously voted to use the Learning Screening procedure in June of 1975 emphasizing that 10-day requirement would certainly test motivation. However, at this late date the College recommended that this be delayed one year so that appropriate announcements could be made. As a result, the Faculty decided to test the Learning Screening procedure after the students are admitted and school begins in August-September, 1975.
    c) In light of the amount of time the past screening procedure required in relation to the ineffectiveness in reducing the attrition

rate (approximately 33 percent drop out per year), the random selection policy was supported until a more effective screening procedure could be found.

d) The need for a successful screening procedure was emphasized and options are to be researched over the next several years until a solution is found.

Three-Year Predictive Selection Study

1. First Year 1975-76

As described above, students will be randomly selected from those meeting minimum G.P.A. criterion or fulfilling alternative requirements. At or near the beginning of the school year, the 10-day Learning Screening will be given to the students using three pinpoints; hear-write for following directions; see-write for problem solving; and see-say words for the College Entrance Examination. The data will be analyzed at the end of the year to evaluate the procedures' accuracy in predicting dropouts.

2. Second Year 1976-77

Depending on the results of the First Year Plan, the second year will tentatively use the following admission policy. Students meeting the basic G.P.A. (or alternative) criterion will be given the opportunity to participate in the 10-day Learning Screening procedure in May, June, or July. From those participating 8 or more days, students will be randomly selected for admission. Also, the first year pinpoint showing the lowest accuracy in predicting dropouts will be replaced by a "caring" pinpoint. This screening procedure will emphasize motivation, adaptability to new environments, "caring" behavior, and basic academic learning. Again, the data will be analyzed at the end of the school year to evaluate its accuracy in predicting (and decreasing) the dropout rate.

3. Third Year 1977-78

The third year plan will be formulated after the results of the first year are analyzed and modified based on the second year results.

Goal

The goal is to decrease the dropout rate from the Mt. Hood Community College A.D.N. Program from its current rate of approximately 33 percent to 20 percent. To accomplish this goal, alternative screening procedures, as detailed above, will be tried during the next three years.

Placement Procedure

Placement procedures within the nursing program are detailed in the section of the report describing Objective #4: Develop behavioral entry criteria for the learner.

Briefly, two tactics modify placement. First, students can challenge a course and move to the next by demonstrating the competencies required by that course. And second, students may select the pace at which competencies are demonstrated (slow, regular or fast).

During the 1974-75 school year approximately 20 percent of the students deviated from regular pacing. Again, for more detail see the section of this report describing Objective #4.

Transcript Reflecting Competencies

The Mt. Hood Community College Nursing Program has attempted to develop and refine a competency-based, career ladder program for nursing education with emphasis on student acquisition of competence within a learning framework that allows for individual learner differences. There has been a committment to provide students with a variety of teaching/learning modes so that instruction becomes more individualized and competencies can be acquired in ways that respond to differing student needs. Additional features that allow flexibility within the program's learning environment are multiple entry and exit criteria and self-pacing.

"An academic transcript is the final report of experiences and accomplishments which define a college degree. As such, it would be a reflection of what a college or university views as important both in the processes and outcomes of learning." (Forrest, et al, 1975). This statement coupled with the above, is basic to the reasons the M.H.C.C. Nursing Program chose to pursue the development of a transcript that goes beyond the traditional elements of course title, credits and grade, to a style that reflects learner competence.

The citation made above is from an article entitled "The Narrative Transcript - An Overview" written by Aubrey Forrest, Richard Ferguson and Nancy Cole. The following excerpts from the article describe very comprehensively the implications of the narrative transcript for the learning process and how these parallel an educational philosophy that allows for student diversity and attempts to build and enhance an open relationship between students and faculty.

> The narrative transcript, because its use is a reflection of an educational philosophy, is related to many vital educational issues... These issues are grouped here under two headings: the descriptive adequacy of the transcript and the implications of the transcript for other aspects of the learning process.
>
> The use of any particular type of transcript has several direct or indirect links to beliefs about what is advantageous in an educational or learning process...
>
> Focus on outcomes. The narrative transcript is both a reflection of and a motivating force for the increasing concern that

> institutions focus on specific outcomes of the learning process. When outcomes are more completely described, a narrative transcript facilitates adequate documentation of those outcomes.
>
> Student responsibility for learning. Interest in a narrative transcript is often linked with a concern for the effects of the traditional grading process on the self-motivation and self-direction of student learning. The concern is that with the carrot and stick approach to learning via grades, the grades themselves rather than the learning may become the motivation and the reward. In a society needing a citizenry experiencing life-long learning in many areas of human endeavor, it seems especially crucial to promote student responsibility and self-motivation for learning, including self-assessment. The hope is that replacing the simple grade with a more complete description of the process and outcomes of learning will increase the reward value of the learning itself and move the educational process toward promoting student desire for life-long learning experience in diverse areas of their own choosing...
>
> Student-faculty relations. The use of a transcript requiring more extensive and more complete descriptions and evaluations of student learning can have several positive effects on students and faculty...Students and faculty alike are more apt to perceive learning as a shared activity rather than as something provided for the students by the faculty.
>
> In summary, the proponents of narrative transcripts see many areas of potential benefit associated with the use of the narrative system. As already noted, they tend to see all academic transcripts, not merely as recording documents, but also as reflections of the educational philosophies of institutions. A college or university that has a traditional transcript is seen as espousing a mechanical, competitive and restrictive philosophy of learning rather than a personalized, individualized and liberating philosophy of human learning reflected in the use of some type of a narrative transcript (Forrest, et al, 1975).

The traditional transcript is simply not adequate to reflect the philosophy of this nursing program, whose emphasis is on behaviorally stated learner competence (educational outcome) and responsibility to individual needs and differences (educational process).

The following is a description of the process and outcomes that were a part of developing a transcript that reflects learner competence for the M.H.C.C. nursing program.

Methodology

Contact was made with Aubrey Forrest, Dean, St. Paul Learning Center, Minnesota Metropolitan State College, at the suggestion of Tom Corcoran of the F.I.P.S.E. staff.

Following telephone discussion with Dr. Forrest regarding the transcript needs of the M.H.C.C. program, a consultation agreement was drawn up which included a two-day site visit by Dr. Forrest to the M.H.C.C. campus to work on development of a narrative transcript. (See Appendix 5-3 for curriculum vitae.)

A transcript task force was organized which included: two nursing faculty members, two grant staff members, and the Director of Admissions and Records. Members of the task force reviewed materials provided by Dr. Forrest prior to the consultation visit so that they would have some familiarity with various transcript styles, and some opportunity to evaluate these in view of the nursing program needs. These materials included the article referred to in the introduction, "The Narrative Transcript - An Overview", and "Issues of Narrative Evaluation, Documentation, and Reporting of Student Learning", a notebook with samples of narrative transcript styles currently in use. In turn, course outlines and other pertinent program materials were furnished to Dr. Forrest so that he would have some knowledge of the M.H.C.C. nursing program when he arrived for the site visit.

One grant staff member met with Dr. Forrest before the first session to share information, clarify objectives and respond to questions. This eliminated the need for orientation, so that task force meeting time was used for actual development and writing of a transcript.

The first session of the site visit began with identification of those individuals and agencies who are the primary recipients of student transcripts, i.e. prospective employers, 4-year colleges and universities. There followed discussion as to the style of transcript that would be most useful and/or acceptable to those identified.

Once this list was made, there was discussion of the cost factors involved in the development and maintenance of a narrative transcript system. These include such things as: faculty time for writing transcript entries, administrative and clerical costs in maintenance, and production costs such as paper and ink. Since maintenance and storage of transcripts is primarily the responsibility of the campus Admissions and Records Office, this discussion was tabled pending a meeting with the Director of Admissions and Records, who was unable to attend the first session.

The next task was to identify the components seen as necessary as part of the nursing program transcript. These components were outlined with respect to the foregoing discussion and what Forrest referred to as the "descriptive adequacy of a transcript".

> Descriptive Adequacy of a Transcript
>
> One area of educational concern with regard to transcript is the adequacy of its description of the individual, the educational process experienced, and outcomes achieved or attained. These concerns extend to two functions of a transcript: the function as communication vehicle to an external agency for some decision and the function as a record of what happened to a person at a given time and place.
>
> Descriptive adequacy for external decisions. The proponents of the narrative transcript argue that it is important to convey more information than that reported on the traditional transcript to those external agencies to which the student wishes to provide information, especially prospective employers and graduate schools. Conventional academic transcripts, which report only course titles,

> grades, and credits, do not adequately communicate a student's strengths and weaknesses, the nature of learning activities in which the student engaged, the resulting competencies, or the process by which the student's learning was assessed. Even though these external agencies may be conditioned to accept, and even prefer, the rather simple information provided by a traditional transcript, it is argued that a more complete report of the student's achievements would encourage, even challenge, external agencies to judge the student more accurately.
>
> Adequacy as a humanistic description of an individual. A college education is basically an individual, unique, human experience, and a transcript should attempt to allow for a more humanistic presentation of students and their accomplishments than is possible through the traditional transcript... (Forrest, et al, 1975).

An additional and particularly significant concern that is not mentioned in the article, is that of the constraints of institutional record keeping systems and transcript guidelines set up by institutional accrediting agencies.

With the components identified, work was begun to write a general introductory statement and specific entries to be made on the narrative transcript. (See Results section of this report which follows.)

The first session ended with completion of a general statement and an example and format established for writing specific transcript entries.

The second task force session included review of a set of guidelines written by Dr. Forrest and a project staff member to facilitate faculty members in writing transcript entries. The Director of Admissions and Records attended this meeting and he provided input on the feasibility of the transcript being developed and the preliminary groundwork for maintenance of the transcript system was laid. Some further examples of transcript entries were written by faculty members and reviewed by the task force.

Finalization of the transcript system and preparation of materials was done in the days following Dr. Forrest's visit to the M.H.C.C. campus.

Results

The following are the outcomes of the task force sessions and subsequent work on the narrative transcript.

Recipients

The task force identified the following individuals and/or agencies who would potentially receive or have concern with the nursing program transcript. They are:

1. Oregon State Board of Nursing
2. National League for Nursing
3. Colleges, universities and other educational institutions
4. Prospective employers
5. Institutional accrediting agencies
   (Northwest Association of Secondary and Higher Schools)

Consideration of these recipients and their use of the transcript indicated the need to maintain a traditional format which could be supplemented by a narrative section. The traditional format now utilized by the Admissions and Records Office is called a Permanent Record and is shown in Figure 5-3.

This permanent record would fulfill the needs of those agencies that either require and/or desire the traditional features of course title, credits earned, grade and G.P.A., as well as those recipients who would not adequately evaluate a totally narrative transcript. There was consideration given to the fact that a narrative transcript that is too lengthy and detailed can be counterproductive.. Rather than providing additional information for the reader, it tends to be overlooked or disregarded since it is more cumbersome to read and evaluate.

PERMANENT RECORD

FIGURE 5-9

97206

MT. HOOD COMMUNITY COLLEGE
GRESHAM OREGON [illegible]

NAME

HIGH SCHOOL
140016

GRADE CHANGES

ADVANCED STANDING

YR	QTR HR

GRADUATION

Nursing Assistant Certificate
March 1974
Practical Nursing Certificate
August 1974

TRANSCRIPTS ISSUED

CREDITS ARE STATED IN QTR HRS 90 CREDITS REQUIRED FOR AA AND

543-60-0757 FALL 1973

		CREDITS	GRADE	POINTS
[illegible]	ANATOMY-PHYSIOLOGY 1	4	C	[illegible]
[illegible]	SEMINAR HUMAN BHAVOR	3	B	[illegible]
[illegible]	INTRO NURSE SCIENCE	6	A	24
[illegible]	NURSE SCI SKILLS 1	4	B	12

CREDITS ATTEMPTED	CUMULATIVE G.P.A.	CUMULATIVE GR. POINTS	CUMULATIVE CR. EARNED	QTR. CREDITS	QTR. POINTS	QTR. G.P.A.
17	3.12	53	17	17	53	3.12

543-60-0757 WINTER 1974

		CREDITS	GRADE	POINTS
BI232	ANATOMY-PHYSIOLOGY 2	4	C	8
ENG10	COMM SKILLS I	3	B	9
NSG116	NURSING-ACUTE SITUAT	6	B	18
NSG102	NURSE SCI SKILLS 2	4	A	16

CREDITS ATTEMPTED	CUMULATIVE G.P.A.	CUMULATIVE GR. POINTS	CUMULATIVE CR. EARNED	QTR. CREDITS	QTR. POINTS	QTR. G.P.A.
34	3.06	104	34	17	51	3.00

543-60-0757 SPRING 1974

		CREDITS	GRADE	POINTS
NSG103	NURSE SCI SKILLS 3	5	A	20
NSG117	NURSE-SPECIAL CARE 1	6	B	18
FL225	CHILD DEVELOPMENT	3	A	12
SOC204	GENERAL SOCIOLOGY	3	A	12

CREDITS ATTEMPTED	CUMULATIVE G.P.A.	CUMULATIVE GR. POINTS	CUMULATIVE CR. EARNED	QTR. CREDITS	QTR. POINTS	QTR. G.P.A.
51	3.25	166	51	17	62	3.65

543-60-0757 SUMMER 1974

		CREDITS	GRADE
NSG118	NURSE-EXTENDED CARE	12	A
NSG209A	PRACTICUM-HOME CARE	4	A
PSY201	GEN PSYCHOLOGY	3	B
PSY201	GEN PSYCHOLOGY	3	D
SOC214	SOCIOLOGY OF MEDCINE	3	B

CREDITS ATTEMPTED	CUMULATIVE G.P.A.	CUMULATIVE GR. POINTS	CUMULATIVE CR. EARNED	QTR. CREDITS	QTR. POINTS	QTR. G.P.A.
76	3.30	251	76	25	85	3.

543-60-0757 FALL 1974

		CREDITS	GRADE
BI234	MICROBIOLOGY	4	B
NSG201	ADV NURSING SKILLS	5	B
NSG214	NURSING-COMMUNITY	6	A
PSY208	SEMINAR FUNCTL BHAVR	3	B

CREDITS ATTEMPTED	CUMULATIVE G.P.A.	CUMULATIVE GR. POINTS	CUMULATIVE CR. EARNED	QTR. CREDITS	QTR. POINTS	QTR.
94	3.31	311	94	18	60	3.

543-60-0757 WINTER 1975

		CREDITS	GRADE
BI233	ELEMENTARY PATHOLOGY	4	C
NSG202	NURSE DIAGNOSTIC SKI	5	B
NSG216	NURSE-ACUTE SITUATIO	6	B
PSY203	GEN PSYCHOLOGY		*

CREDITS ATTEMPTED	CUMULATIVE G.P.A.	CUMULATIVE GR. POINTS	CUMULATIVE CR. EARNED	QTR. CREDITS	QTR. POINTS	QTR.
109	3.23	352	109	15	41	2.

Cost Factors

The following major costs of the narrative transcript were identified:

1. Faculty time to write transcript entries
2. Clerical time to make entries onto the transcript
3. Space for storage of transcripts
4. Supplies, i.e. paper, ink
5. Reproduction of transcripts requested
6. Mailing costs

Since no additional faculty, administrative or clerical time will be made available for transcript maintenance, it was desirable to utilize a transcript style that would keep these time requirements to a minimum. The Director of Admissions and Records also pointed out the necessity to use as few pages as possible to keep transcript mailing costs down.

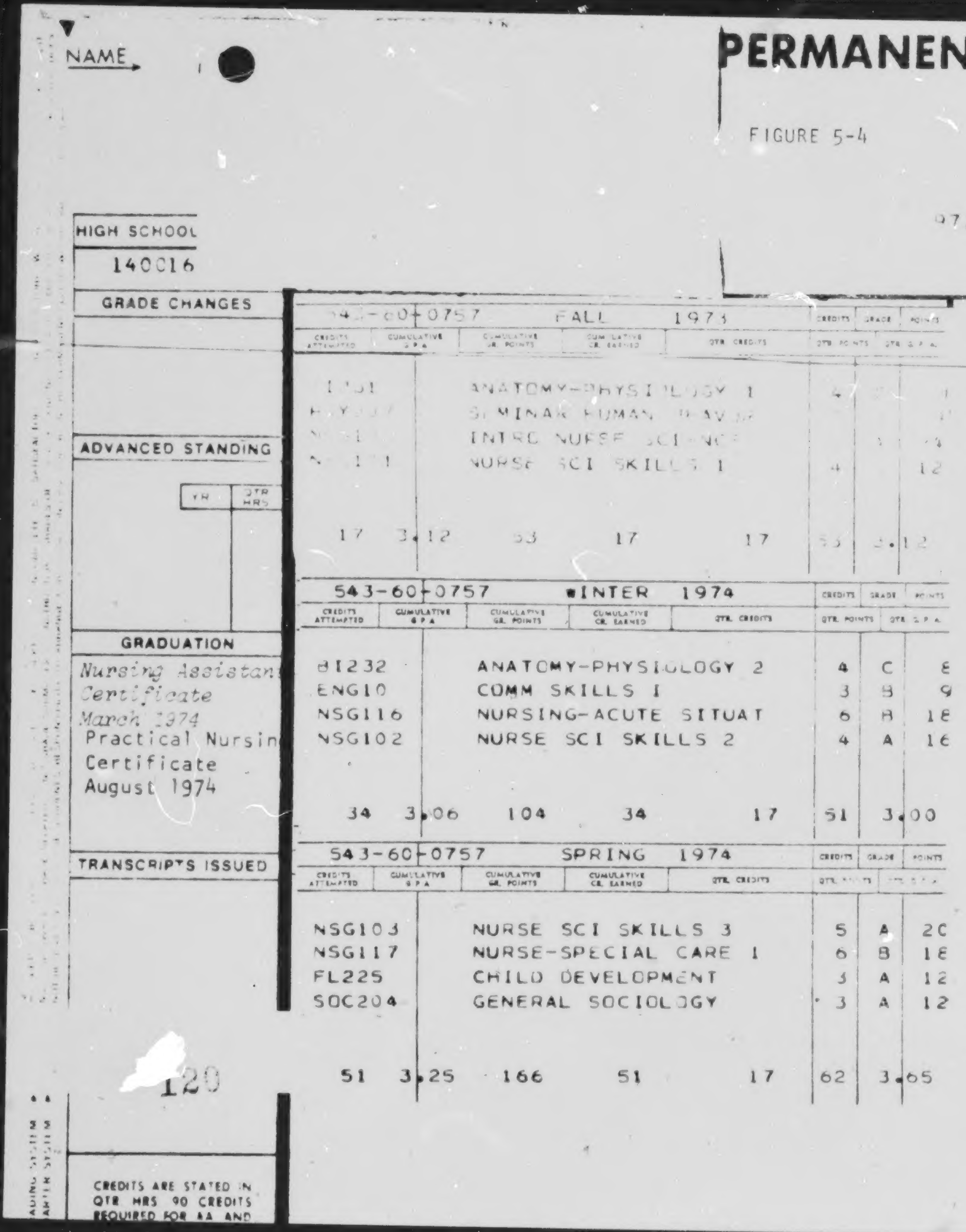
The transcript style that was written is responsive to all factors that have been identified and discussed. It reflects the program philosophy in that it includes a statement of learner competence for each course (outcome) and description of the means by which competence is attained (process). There is provision made for statement of student proficiency as well. The format is concise and responds to the limited resources available for maintenance. This brevity also enhances readibility and ease of evaluation.

Transcript Design

All nursing courses taken in the M.H.C.C. A.D.N. Program have certain features in common. All are competency based and all utilize a variety of learning modes. Furthermore, evaluation of student performance is based on an established and constant standard. To alleviate the need for repeating this explanation for each course, a general statement was written and typed onto pressure sensitive labels that will be attached to the final page of each nursing student's traditional permanent record. The general statement written by the task force reads as follows:

> CAREER LADDER NURSING PROGRAM
>
> The Career Ladder Nursing courses (designated "NSG" on the preceding course listing) are competency based. Students receive listings of required competencies at the beginning of each course. A variety of learning modes are utilized by the students in acquiring these competencies including: previous on the job experience; activities in the college classrooms and laboratory; A-V and independent study resources; clinical experience in private and public hospitals, nursing homes, community agencies and home visitations.
>
> The level of competence required is the performance normally expected of a staff nurse. Students demonstrate each competency as stated within the accepted time, frequency and error allowance incorporating the actions essential to effect: safety, comfort, personalization, teaching and efficiency. In addition to these common concepts, specific competencies developed in individual courses are demonstrated by students and verified by the nursing faculty. Competency must be demonstrated in a laboratory situation prior to use in a clinical situation. See the following narrative description of specific competencies acquired within each course.

Figure 5-4 shows how this statement will be made a part of each nursing student transcript.



NAME

PERMANENT RECORD

FIGURE 5-4

97206

MT. HOOD COMMUNITY COLLEGE
GRESHAM OREGON

HIGH SCHOOL
140016

GRADE CHANGES

ADVANCED STANDING

YR	QTR HRS

GRADUATION

Nursing Assistan
Certificate
March 1974
Practical Nursin
Certificate
August 1974

TRANSCRIPTS ISSUED

120

CREDITS ARE STATED IN QTR. HRS. 90 CREDITS REQUIRED FOR AA AND

543-60-0757 FALL 1973

CREDITS ATTEMPTED	CUMULATIVE G.P.A.	CUMULATIVE GR. POINTS	CUMULATIVE CR. EARNED	QTR. CREDITS	CREDITS / QTR. POINTS	GRADE	POINTS / QTR. G.P.A.
[illegible]		ANATOMY-PHYSIOLOGY 1			4	[illegible]	[illegible]
[illegible]		SEMINAR HUMAN BEHAV					[illegible]
[illegible]		INTRO NURSE SCIENCE				[illegible]	[illegible]
[illegible]		NURSE SCI SKILLS 1			4		12
17	3.12	53	17	17	53		3.12

543-60-0757 WINTER 1974

CREDITS ATTEMPTED	CUMULATIVE G.P.A.	CUMULATIVE GR. POINTS	CUMULATIVE CR. EARNED	QTR. CREDITS	CREDITS / QTR. POINTS	GRADE	POINTS / QTR. G.P.A.
BI232		ANATOMY-PHYSIOLOGY 2			4	C	8
ENG10		COMM SKILLS I			3	B	9
NSG116		NURSING-ACUTE SITUAT			6	B	18
NSG102		NURSE SCI SKILLS 2			4	A	16
34	3.06	104	34	17	51		3.00

543-60-0757 SPRING 1974

CREDITS ATTEMPTED	CUMULATIVE G.P.A.	CUMULATIVE GR. POINTS	CUMULATIVE CR. EARNED	QTR. CREDITS	CREDITS / QTR. POINTS	GRADE	POINTS / QTR. G.P.A.
NSG103		NURSE SCI SKILLS 3			5	A	20
NSG117		NURSE-SPECIAL CARE 1			6	B	18
FL225		CHILD DEVELOPMENT			3	A	12
SOC204		GENERAL SOCIOLOGY			3	A	12
51	3.25	166	51	17	62		3.65

CAREER LADDER NURSING PROGRAM

The Career Ladder Nursing courses (designated "NSG" on the preceding course listing) are competency based. Students receive listings of required competencies at the beginning of each course. A variety of learning modes are utilized by the students in acquiring these competencies including: previous on the job experience; activities in the college classrooms and laboratory; A-V and independent study resources; clinical experience in private and public hospitals, nursing homes, community agencies and home visitations.

The level of competence required is the performance normally expected of a staff nurse. Students demonstrate each competency as stated within the accepted time, frequency and error allowance incorporating the actions essential to effect: safety, comfort, personalization, teaching and efficiency. In addition to these common concepts, specific competencies developed in individual courses are demonstrated by students and verified by the nursing faculty. Competency must be demonstrated in a laboratory situation prior to use in a clinical situation. See the following narrative descriptions of specific competencies acquired within each course.

The second feature of the narrative transcript is a course competency description for each course taught in the nursing program. Each student in the program is responsible for the same competencies within each course. Since these competency requirements are constant for each student, a standard competency description can be written for each course and this will become a part of the student transcript. In order to indicate any variation in course work, a proficiency statement to be filled in by the instructor is also included. In many cases, the proficiency statement will elaborate on the reason for the grade given, i.e. a grade of "A" indicates work done above and beyond the minimum requirements and this statement will explain the nature of the extra work.

All course competency descriptions and proficiency statements will be written according to the following guidelines:

I. Guidelines for Writing Narrative Transcripts

Content of Competence Statement

1) limit 120 words for competence statement
2) describes what concepts the student can identify and apply as a result of this course
    a) emphasis on knowledge base for each competence statement
    b) emphasis on context in which knowledge is applied
    c) identify specific skills

Content of Proficiency Statement

1) limit 30 words for proficiency statement
2) describes what the student can identify and apply above the minimum statement of competence, for example:
    a) student has completed an extra project satisfactorily
    b) student can identify and/or apply concepts more extensive than normally required in the course - as indicated by what he/she says or writes
    c) student applied basic concepts of the course with greater speed and accuracy and/or in more diverse situations and/or with greater frequency than normally expected in the course

d) student demonstrates an ability to function satisfactorily with less supervision than normally expected in identifying and/or applying concepts
e) student taught and evaluated peers
f) acquired competencies in less than normal time frame

Word limitations were made to respond to the need for brevity and the limits allow approximately 1/3 of an 8 1/2 x 11" sheet of paper per entry. Utilizing both front and back of each sheet, maximum length for the narrative section of the transcript will be 3 sheets as there are 17 nursing courses in the total curriculum.

Table 5-2 shows examples of the format for course competency descriptions and proficiency statements written for NSG 101, NSG 116, and NSG 216.

Implementation and Maintenance of the Transcript

A file for each student is maintained by both the Admissions and Records Office and the Nursing Program. Course competency descriptions will be written and sets duplicated and filed in both of the nursing student's files. As courses are completed, the proficiency statements will be added to the transcript by means of a press-on label. A duplicate label will be sent to the Admissions and Records Office to be applied to the student's permanent folder. This duplicate record keeping will insure against loss or damage to the original.

Summary

The M.H.C.C. Nursing Program narrative transcript will include the following features:

1) Traditional transcript listing course title, credits earned, grade received, and G.P.A.

Table 5-2
Course Competency Descriptions

1. NSG 101 - Nursing Science Skills

   Identified and applied the concepts from basic physical, biological and behavioral sciences together with nursing skills in caring for hospitalized patients of all ages as follows: Assessment: consulted Kardex, staff, and books; elicited information from patient and/or family related to signs, symptoms, physical needs and personal concerns; accurately measured Blood Pressure, Temperature (by three routes), Pulse (at nine sites), Respirations, Fluid intake and output, Reported findings objectively. Provided: Environmental Safety by correct (1) handwashing and handling clean and dirty items, (2) use of body mechanics and safety devices in transferring patients, (3) application and maintenance of soft restraints; Personal Hygiene and Grooming; Nutrition by checking diet status and tray for appropriate foods, positioning and feeding; Means for elimination by placing patients on and off receptacles.

   Proficiency Statement: Acquired competencies as described.

2. NSG 116 - Nursing for Acute Physical and Environmental Situations

   Identified and applied the concepts from basic physical, biological and behavioral sciences together with nursing skills in caring for persons of all ages hospitalized for an acute health situation. Assessment: Identified and measured the factors that were affecting or disrupting the individual's homeostatis. Planned, prioritized nursing action and intervened in ways that assisted person to: (1) accept, adapt to, or overcome homeostatic disturbances resulting from Immobility, Pain, Grief, and Surgical Intervention including pre-operative teaching, post-operative care, monitoring and regulating parenteral and oral fluid intake and fluid losses, observing for Fluid and Electrolyte Imbalances, changes in states of consciousness, and complications from tests or therapies; (2) provided the particular needs for children in relation to their age to promote continued growth and development; (3) attended to the concerns, needs, and effects of attendant family.

   Proficiency Statement: Acquired competencies within 9 weeks rather than normal 10 weeks.

3. NSG 216 - Nursing for Acute Physical and Environmental Situations II

   Identified and applied concepts from basic physical, biological and behavioral sciences together with nursing skills in caring for acutely ill hospitalized persons of all ages requiring multiple interventions. Assessment included interpretation of laboratory findings for nursing implications; collection of specimens for blood gases, monitoring patients on hemodialysis; recognizing potential causes, signs and symptoms of Fluid and Electrolyte Imbalances, validating perceptions of tests, therapies and outcomes of altered body appearance or function, including their sexuality. Interventions - set up and implemented (1) a plan for bowel control; (2) physical and social activities for persons with a physical disability; taught self care and management to persons with ostomies, hormone imbalances, special diets; started, added to, and regulated intravenous therapies, administered all prescribed therapies.

   Proficiency Statement: Was especially effective in teaching self care and acceptance of changes in function or life style.

2) A general statement of explanation of program format, and system of student evaluation
3) Course competency description for each course
4) Proficiency statement for each course

Primary responsibility for maintenance of this transcript will be in the nursing program by nursing program personnel with duplicate copies to be filed and maintained in the Admissions and Records Office.

Registration

College registration procedures require that a student make an appointment and register for classes approximately two weeks prior to the beginning of each school term. Any registration on or after the first day of classes is considered late and the student must pay a $5.00 late fee. Since the A.D.N. Program allows students to self-pace their nursing education, a closed registration procedure is often not adequate to accomodate the needs of the pacing student.

The grading system utilized by the nursing program allows for grades of A, B, and Incomplete. Students receive a grade of Incomplete in a course if all competencies are not met within the term for which the course was offered. In this way, students are not penalized, by receiving a failing grade, for non-completion of the course within the constraints of a ten to eleven week term and they have the opportunity to remove the incomplete grade by finishing competencies at a future time. However, given unlimited time to remove the incomplete grade, some students have taken several terms to complete the course competencies thus utilizing faculty time and college resources that are not accounted for in faculty schedules or program budgets. This has been problematic in that students make no compensation for this additional use of time and resources and faculty become overloaded in providing time for unscheduled instruction and supervision. This has presented problems primarily in the case of the slow pacing student.

The closed registration system also presents problems for the fast pacing student. This student may complete one course in the middle of a term and wish to move into materials for the next course in the sequence, perhaps finishing these as well, in one term. This has made registration difficult.

since the second course completed is not regularly scheduled for that term and no mechanism is available for irregular registration. In both cases there is no computer software generated to accomodate the registration of pacing students.

A procedure was set up to provide for on-going registration of nursing students.

Prior to each new term, the program coordinator gives the division chairman a projection of the number of students who may be registering or re-registering for courses that do not appear in the regular schedule. If, during a term, a student needs to register, the program coordinator generates a special ADD card which is signed by the division chairman. On presentation of this ADD slip, the student then registers for the course without any late penalty and pays only the difference in tuition that is designated if the total course load then exceeds 18 credit hours. (18 credit hours is the maximum load any M.H.C.C. student may carry per term without paying additional tuition.) The course, if not regularly scheduled, is not included in the college schedule as a course section, but the instructor is given credit for this instruction on a per student basis.

A student may not register for courses out of sequence or register for two courses in a sequence simultaneously. However, if the student anticipates entering a course during the term, he/she may attend those classes from the beginning of the term so as not to fall behind in classroom work. The student may not attempt to pass written or skill demonstration competencies until he/she is officially registered.

During the 1974-75 school year, thirteen students enrolled in the A.D.N. program, utilized special registration procedures; eight slow and five fast pacing students. This registration mechanism has provided a system for open registration which is responsive to the pacing student. It is hoped that the procedure can be refined so it can be handled by computer as is regular campus registration.

EVALUATION OF OBJECTIVE 5

Table 5-3 summarizes the extent to which each activity in Objective 5 has been completed. All activities have been completed except Activity 3, design placement procedure. Work will continue on this activity because of its necessity to a Competency Based Educational Program. Overall, Objective 5 was 94 percent successfully completed.

Table 5-3

EVALUATION OF OBJECTIVE 5

OBJECTIVE: Interface entry and exit criteria with college admission, placement, registration and transcript procedures and policies.

PLANNED ACTIVITIES	PERCENTAGE COMPLETED	JUSTIFICATION FOR EVALUATION
1. Establish a task force composed of appropriate college personnel, nursing faculty and project staff to assist with the following activities.	100%	Task force was formed and completed its advisory function.
2. Design admission procedure	100%	Admission procedure designed and revised (see Appendix 5-1 and 5-2) and three year Predictive Selection Study implemented.
3. Design placement procedure	72%	Faculty estimate that open or challenge course placement procedures are approximately 72% developed.
4. Design transcript reflecting learner competence	100%	Transcript designed and functioning (see Figures 5-3 and 5-4 and Table 5-2).
5. Design registration procedure	100%	Students can register for a course or credit any time during the school year.
OVERALL EVALUATION	94%	Average percentage completion of above activities

OBJECTIVE 6

REFINE EXIT CRITERIA

BRIEF DESCRIPTION

Refining exit criteria is a composite objective considered in this project to be completed when the following four objectives are completed:

1. Develop conceptual logic that responds to the content of nursing... to multiple entry and exit criteria...
2. Develop instructional logic that responds to the content of nursing... to multiple entry and exit criteria...
3. Identify instructional materials necessary to provide to the learner alternatives for reaching performance outcomes.
4. Develop behavioral entry (and exit) criteria for learners.

EVALUATION OF OBJECTIVE 6

Throughout the 1974-75 school year, exit criteria have been continually refined as the reader will note when reading these sections describing Objectives 1 through 4. The extent to which this Objective has been completed is shown in Table 6-1 and is the composite from Objectives 1 through 4.

Table 6-1

Evaluation of Objective 6*

Objective: Refine exit criteria.

Planned Activities	Percentage Completed	Justification for Evaluation
See Objective #1 Activities	100%	See Evaluation of Objective #1
See Objective #2 Activities	92%	See Evaluation of Objective #2
See Objective #3 Activities	86%	See Evaluation of Objective #3
See Objective #4 Activities	72%	See Evaluation of Objective #4
Overall Evaluation	88%	Average percentage completion of Objectives 1 through 4

Note: Objective 6 would be fulfilled with the accomplishment of Objectives #1, #2, #3 and #4.

OBJECTIVE 7

DO FOLLOW UP OF GRADUATES WHO HAVE COMPLETED ONE OR MORE LEVELS OF THE PROGRAM AND THOSE WHO DROPPED OUT BEFORE COMPLETION OF ONE OR MORE LEVELS.

PRODUCTS

- Descriptive information of M.H.C.C. Nursing Program's Graduates and dropouts in follow-up circumstances (Tables 7-1 through 7-5).
- Follow-up questionnaires for:

- R.N. graduates	(Appendix 7-3)
- L.P.N. graduates	(Appendix 7-4)
- Dropouts	(Appendix 7-5)
- Immediate supervisors	(Appendix 7-6)
- Nursing administrators	(Appendix 7-7)

- Competencies most useful in graduates' job setting (Tables 7-8 and 7-9)
- Recommendations for improving the M.H.C.C. Nursing Program (Tables 7-10 and 7-11)
- On-the-job performance levels of M.H.C.C. R.N. graduates (Figures 7-1 through 7-8)

PROCESSES

- Design and conduct opinionnaire follow-up study
- Design and conduct on-the-job performance comparison study

Opinionnaire Follow-up Study

The real test of the effectiveness of an educational program is in the performance of its graduates. Employers of the graduates can contribute markedly to program improvement by stating whether or not the graduates met the expectations the employers held for them. Recent graduates are in a singularly appropriate position to make suggestions about their educational program, removed as they are from the academic setting and faced with job expectations as nurse practitioners. Recent program dropouts may also provide useful input concerning reasons students exit from the program early. A follow-up study of graduates and dropouts, therefore, can give valuable guidance to the faculty for curriculum improvement. This project was concerned with such a study. Specifically, the purpose of this study was to determine the post-program vocational and educational activities of the graduates and dropouts of the Associate Degree Nursing Program at Mt. Hood Community College and the opinions of these graduates and their employers concerning the adequacy of the graduates' preparation for their job setting. It was planned to use the results of the study as a guide to future curriculum development.

Methodology

Data were secured from 6 sources: the files of the college, the R.N. graduates of the school, the L.P.N. graduates of the school, dropouts of the program, the graduates immediate supervisors, and the head nursing administrators of the graduates' work settings. Ninety-two students who were enrolled in the nursing program, between September '71 and August, '74 and had since left the program, for more than 4 weeks constituted the population for this study.

The sample only included 88 of these students however, since valid addresses could not be obtained for 4 of them. Thirty-three of these were associate degree graduates, 6 were L.P.N. graduates, and 49 were dropouts of the program. Questionnaires for both graduates and dropouts were constructed (see Appendix). Some of the questions could be answered by a check mark, while others were open ended. Respondents were encouraged to write additional comments and space was provided for this. The questionnaires were mailed to all 88 students in the sample. Twenty-two of the 33 A.D.N. graduates, 3 of the 6 L.P.N. graduates and 27 of the 49 dropouts returned usable questionnaires; the findings are based upon this return.

Questionnaires were designed for use by immediate supervisors and administrators of the graduates in a manner that permitted a comparison of the immediate supervisor's and administrator's opinions regarding the adequacy of the educational preparation of the graduates. Only the most recent employer of each graduate was contacted unless the graduate had been in his/her most recent position less than 3 months, in which case the second most recent employer was contacted instead. No employer was contacted for whom the graduate had worked less than 3 months. Fourteen questionnaires were sent to administrators and immediate supervisors, representing 6 different health agencies. Questionnaires were given to the administrators of the nursing departments, with the request that another questionnaire be referred to the person to whom the graduate was immediately responsible. Four of 6 administrators and 7 of 8 supervisors returned usable questionnaires; the findings are based upon this return.

Results

Personal Characteristics

Practically all students who were sampled by this study were women. The highest percentage of men students (27%) were dropouts as compared to 8 percent men graduates.

Sixty-nine percent of the dropouts and 70 percent of the graduates were married. Seventy-nine percent of the married students who graduated from the program reported having children as did 60 percent of the dropouts from the program. The average number of dependent children for both graduates and dropouts was 2.7.

The questionnaire administered to program R.N. graduates had a higher response rate than the questionnaire mailed to those who had withdrawn. However, both groups represent a proportional response considered adequate for mail responses. Sixty-seven percent (22 of 33) of the R.N. graduates returned the questionnaires. The response rate for students who withdrew was 55 percent (27 of 48), while 50 percent (3 of 6) of the L.P.N. graduates returned usable questionnaires.

Reasons for Withdrawal from the Program

Withdrawal before completion has long been considered a problem in education, and this is especially true in nursing education, where the manpower demands are urgent.

A list of the stated reasons for students' withdrawal from the program was abstracted from the questionnaires returned by the dropouts. Table 7-1 shows the students' reasons for withdrawal from the program Study results indicated that most reasons for withdrawal were program related. Returned questionnaires indicated that 56 percent of the students had withdrawn for program related reasons. Next in frequency were marital and family problems, 16.7 percent. Financial problems was mentioned as the reason for withdrawal by 12.5 percent of the students.

Table 7-1

	Reason given for Withdrawal	Number	Percent
	Marital/Family Problems	8	17
	Financial	6	13
	Academic Failure	4	8
	Physical Health, Illness	2	4
	Job Committment	1	2
	Dissatisfaction with Nursing Program	6	13
Program Related Reasons (56.4%)	Wanted transfer credit	1	2
	Disliked group	2	4
	Disliked counting	8	17
	No voice in educational process	1	2
	Too much research	1	2
	Disliked time testing	2	4
	Too heavy class load	2	4
	Personality clash with faculty	4	8
			100

Academic failure only accounted for 8.3 percent of the reasons given for withdrawal.

Sex and Marital Status of Graduates and Withdrawals

Since the nursing student population is primarily women, it follows that both graduates and withdrawals were also predominantly women. However, as shown in Table 7-2, among the small number of men in the group sampled, a considerable number withdrew before graduation.

Table 7-2 gives the marital status of those completing and those who withdrew from the program. Surprisingly, about 70 percent of both graduates and dropouts were married while in the program. Seventy-nine percent of the married students who graduated had dependent children while in the program as compared to 60 percent of the dropouts. The average number of dependent children of graduates and dropouts while in the program was the same, 2.7.

Table 7-2

Dropouts vs. Graduates

Are there any significant descriptors?

	From 27 Dropouts	From 22 Graduates
1. a) % single	31%	30%
b) % married	69%	70%
2. # dependent children while in program (mean)	2.7	2.7
3. Did you have any dependent children while in program?		
# Yes	60%	79%
4. % Male	28%	8%
5. a) Were you working while in program?		
% Yes	50%	58%
b) # hrs. worked? (mean)	25	14
6. Financial situation adequate?		
% Yes	67%	47%
7. Adequate time to study?		
% Yes	52%	63%
8. Needed remedial work?		
% Yes	24%	33%
9. % employed in any area of nursing	68%	91%
10. Earning power ($/hr last job - mean)	$3.34	$4.46
11. Prior and/or post MHCC Education		
% Yes	48%	43%

What Can We Do About the Attrition Rate?

Among the dropouts, more than 92 percent withdrew during the first year (see Table 7-3).

Over 80 percent of the respondents who had withdrawn from the program indicated they would have liked to have remained in the program.

When asked, "What things could the nursing or other M.H.C.C. faculty and administrators have done to help you stay in the program?" they responded as in Table 7-4.

Table 7-3

Withdrawals by Term

Terms in Program	Number	Percent	Cumulative Percent
1	10	37.0	37.0
2	6	22.2	59.3
3	6	22.2	81.5
4	3	11.1	92.6
5	1	3.7	96.3
8	1	3.7	100.0

Table 7-4

Withdrawals
What could we do to help you stay?

		Number	Percent
Nothing		4	18.2
Be prompt and reliable		1	4.5
Help financially		2	9.1
Give personal support		2	9.1
Change the program		1	4.5
	drop counting of behaviors	4	18.2
	don't expect students to teach others	1	4.5
Program	provide transfer credit	1	4.5
Related	increase instructor testing times	1	4.5
Changes	make true self-pacing	1	4.5
(58.8%)	reduce criticisms	1	4.5
	decentralize power in faculty	1	4.5
	lighten the class load	2	9.1

Employment and Financial Situation During Nursing School

Table 7-2 gives information on employment during nursing school and the financial situation reported by graduates and withdrawals. Both graduates and withdrawals responded to these questions in terms of the entire length of time they spent in the nursing program. Since most students who withdrew did so during their first year, (mean of 2.4 terms in program before withdrawal), the frame of reference for graduates and withdrawals is undoubtedly different.

Over 50 percent (58%) of the graduates had been employed at some time during their student days, as compared to 50 percent of those who withdrew from the program. Graduates, who worked, averaged 14 hours per week on their job while dropouts, who worked, averaged more than 25 hours per week. This may be one reason why 63 percent of the graduates indicated they had adequate time to study while only 52 percent of the withdrawals indicated this. Also, a larger proportion (67%) of those who withdrew reported that their financial situation was adequate as compared to 47 percent of the graduates.

Need for Remedial Work

Both graduates and dropouts were asked if they felt they needed remedial work in math, reading, or some other non-nursing area. Thirty-three percent of the graduates felt they needed remedial work while in the program as compared to 24 percent of those who withdrew. All three areas: math, science, and reading were indicated as deficient areas by both graduates and dropouts.

Over 50 percent (59%) of those who withdrew indicated that certain program-related changes might have helped them stay in the program. Of those who wanted program-related changes, 33 percent specifically singled out "counting of Program Product Behaviors", as required by the use of Precise Behavior Management as an integral part of the program, as something they wanted stopped. Interestingly, 18.2 percent indicated that nothing could have been done to help them stay.

Subsequent Employment and Other Education of Those Who Withdrew

Sixty-eight percent of those students who withdrew before graduation and are currently working, are employed in some area of nursing, as compared with 91 percent of the graduates. Apparently, lack of interest in nursing was not a primary reason for withdrawal.

Table 7-5

Area of Employment for Dropouts

Area of Employment for Dropouts

Area of Employment	Number	Percent
L.P.N.	9	36% ← 68%
Nurse Aide or Assistant	8	32 ←
Clerk/Cashier	3	12
Secretary/Receptionist	1	4
Sanitation Foreman	1	4
Research Assistant	1	4
Aviation	1	4
Other	1	4
		100

As expected, the earning power of those who withdrew is significantly less than that of the graduates. The mean $/hour salary of withdrawals was $3.34/hour as compared to $4.46/hour for graduates. Those who withdrew and were employed in nursing-related areas averaged $3.40/hour.

Forty-eight percent of the students who withdrew from the program received additional education from schools other than Mt. Hood Community College as compared with 43 percent of the graduates.

Graduates' Postgraduation Vocational and Educational Activities

Over 90 percent of the R.N. graduates were employed in some area of nursing. All but one had been employed at sometime since his/her graduation. Over 80 percent of the graduates are currently working in Oregon. In addition, the graduates had worked in 3 other states, and in one foreign country.

The graduates had held a total of 40 positions, representing 12 types of nursing positions.

Some graduates had been rather active in professional activities other than their work. One graduate is working on a Master's degree and an additional 6 graduates had taken college courses for credit since their graduation.

Graduates' Evaluation of Educational Preparation

The graduates were asked if they felt they needed more, less, or the same amount of "inservice orientation" as compared to other A.D.N., diploma, and B.S. graduates employed in the same work settings. The results are shown in Table 7-6. It is apparent that most of the graduates felt they needed the same amount of "inservice orientation" as other program graduates.

Table 7-6

Amount of Inservice Orientation Needed by MHCC Graduates

Compared to other types of graduates	More	Same	Less
A.D.N.		74%	26%
Diploma	10%	75	15
B.S.		78	22

The graduates were asked how they rated M.H.C.C.'s instruction, curriculum content, clinical experiences, and class load as compared to other nursing programs. The results are shown in Table 7-7.

Table 7-7

Is the MHCC Program Better, Equal or Worse than Other
A.D.N., Diploma or B.S. Programs?

	ADN			Diploma			B.S. Degree		
Area	better	equal	worse	better	equal	worse	better	equal	worse
1. Instruction	73%	27%	---	41%	53%	6%	20%	67%	13%
2. Curriculum Content	79	14	7%	63	25	13	43	21	36
3. Clinical Experiences	87	13	---	29	29	41	40	47	13
	heavier	equal	lighter	heavier	equal	lighter	heavier	equal	lighter
4. Class Load	87%	13%	---	59%	35%	6%	56%	38%	6%

The graduates thought that M.H.C.C.'s Instruction and Curriculum content was better than other programs, but that the program's clinical experiences were not as good as diploma schools of nursing. M.H.C.C. graduates also believe that their class load was heavier than students of other schools of nursing.

When asked to name the competencies acquired in the M.H.C.C. Nursing Program, that were most useful (needed) in their job settings, the results were as shown in Table 7-8. As a group, the graduates saw the interaction and supervisory skill competencies as most useful in their job settings. This is probably due to the fact that the staff nurse role has been expanded, particularly into supervision and management.

Half (50%) of the responding graduates thought that no competencies could be eliminated from the M.H.C.C. Nursing Program without being detrimental to a nurses' subsequent professional practice. Others wanted competencies related to interpersonal relations, health surveys, following pregnant mothers, reading thermometers in a certain time, and O.B. competencies eliminated.

Table 7-8

Competencies most useful in graduates' job settings.

General area	Competencies	Number	Percent
Tech. pt. care skills (22.4%)	I.V.'s	1	1.7
	vital signs	3	5.2
	giving medications	3	5.2
	diagnostic skills	4	6.9
	sterile techniques	2	3.4
Interaction & Super. skills (48.2%)	sensitive I.P.C., I.P.R.	5	8.6
	personalizing pt. care	11	19.0
	communication skills	5	8.6
	leadership skills	3	5.2
	interaction w/others	1	1.7
	problem solving	1	1.7
	setting priorities	2	3.4
Basic nsg. concepts (13.7%)	teach others	5	8.6
	assessment	1	1.7
	observation	2	3.4
Indep. & integrative concepts (5.1%)	stating own needs	1	1.7
	exp. reg. comb. of know.	1	1.7
	understanding differences	1	1.7
Behavior Modification	behavior modification	6	10.3

When asked what behaviors they have had to acquire, as a consequence of their professional practice, that were not included in their education, a large portion (over 50%) of the responses had to do with interaction and supervisory skills.

Almost three-quarters of the graduates indicated that they presently use precise behavior management. Of these who use it, it is broken down as in Table 7-9.

Table 7-9

Use of Precise Behavioral Management Skills by Graduates

Use of P.B.M.	Number	Percent
Data collecting on self or family	8	44
Pinpointing behaviors	1	6
As nursing intervention	7	39
Programmed and arranged events	2	11

Over half (53%) of the graduates indicated that the recommended course load necessary to complete the program in 8 terms was "too heavy". Less than half (47%) thought that the course load was "just right".

The graduates were asked what changes they would make in the curriculum. The changes suggested by the graduates and the nursing faculty's comments and reactions to these changes are listed in Table 7-10.

When asked to what degree did the nursing faculty serve as adequate professional role models, 53 percent rated them as "very adequate", 32 percent rated them as "adequate", 11 percent rated them "fair", and 5 percent rated them "poor".

Over three-quarters (82%) of the graduates felt that the education they received at M.H.C.C. was adequate enough to enable them to reach their current professional goals.

When asked "are you assigned to the maximum extent of your nursing education?", 71 percent answered yes. Thirty-one percent of the graduates thought that they had been assigned beyond the extent of their nursing education.

When asked, "To what extent was the education you received in the M.H.C.C. nursing program related to your later studies?", 71 percent rated it "extremely helpful", 14 percent said it was "quite helpful", and 14 percent said it was "not needed". Fifty-seven percent indicated that the education they received in the M.H.C.C. nursing program was necessary as a prerequisite to their later studies.

Employers' Evaluation of Graduates' Educational Preparation

When asked to rate the graduates overall educational preparation in 17 specific areas, as compared to graduates of other A.D.N., Diploma, and B.S. degree programs, immediate supervisors and head nursing administrators indicated that M.H.C.C. Nursing Program graduates were equal in all respects.

Table 7-10

Curriculum Changes Suggested by Graduates

Changes suggested by follow-up study of graduates (Graduates - RN, LPN)	Now?	Future? (When)	Not Necessary	Faculty comments and reactions
Drop Sociology of Medicine Change Child Development to Human Development				These changes were made and approved by the Nursing Program Advisory Committee, prior to the meeting.
Add Chemistry				Faculty has been considering this possibility in relation to selection criteria. It is felt that some chemistry background is necessary, however there is not time for the need to be fulfilled within the two-year curriculum. Faculty approved selection criteria that would require at least high school chemistry.
Add Pharmacology and Nutrition		XX To be begun in the near future		Faculty felt that graduate feedback clearly documented this need. It was decided that a chart needed to be made that would track these subject areas through the program. This chronology would pinpoint where concepts are introduced for these subject areas and make certain that they are logically sequenced.
Adding more 1) humanities & 2) religion		 XX	 XX	1) More appropriate for a four-year degree 2) Need was seen to introduce religious and spiritual information. While it was suggested that this could be included in community nursing, the need for this training at the LPN level was cited.

Changes suggested by follow-up study of graduates (Graduates - cont.)	Now?	Future? (When)	Not Necessary	Faculty comments and reactions
Require all courses to specify all competencies at the start of each course				This was done and instituted with the Write-Say-Do outline during the 73-74 academic year.
Offer psychology course taught by a nursing instructor Relate psychology and sociology courses more to nursing Emphasize psychiatric nursing more with instructor modeling	XX			Faculty concurred that student needs in psychology were not being met by general psychology course offerings on campus. To pass boards they need information on psychological orientations: Freud, Skinner, etc., while they do not receive this in general psychology. It was felt that work should begin with Psychology Department to make courses more responsive. A positive outcome with a Pathology class that was responsive to nursing, has encouraged faculty in this direction.

When asked, "What do you feel are the limitations of Mt. Hood Community College graduates in professional practice?", supervisors indicated lack of experience, leadership responsibilities, and trouble adjusting to hospital care as problem areas.

Supervisors and administrators were then asked, "What kinds of preparation do Mt. Hood Community College nursing graduates need that they don't show evidence of receiving?", and again they indicated trouble adjusting to hospital care leadership skills, as well as a lack of patient teaching skills and awareness of patient needs, as problem areas. Experience was again listed as a short coming of the graduates.

It seemed that both employers and the graduates believed that the graduates were better prepared for taking care of individual patients than for assuming a leadership role in the care of a group of patients. Supervisors and administrators expected graduates to have administrative capabilities at the time they were employed, but the M.H.C.C. nursing program does not include administrative functions as one of its curriculum objectives. The nursing faculty's responses to this and other supervisor comments are shown in Table 7-11.

Supervisors and administrators, without exception, felt that they didn't have enough contact with the M.H.C.C. faculty necessary to make input into the educational process.

TABLE 7-11

Administrator and Supervisor Responses

Administrator & supervisor comments	Now?	Future? (When)	Not Necessary	Faculty comments and reactions
Two-year nurses, those who enter straight from high school, often lack maturity and experience and should have hospital experience before being accepted into an ADN program.				Discussed possibility of such an admission requirement. Felt that this was true based on program experience. No action was taken however, it was felt that selection criteria should be sensitive to "life experience" that would indicate maturity in young applicant.
Two-year graduates lack awareness for need of patient teaching.	XX Cont. to emphasize & re-emphasize in program			Faculty concurred; felt many students do not grasp this concept as well as they should.
Two-year grads aren't ready to take positions of team leading, charge nurse.			XX However, statement should be drafted & added to philosophy of program	This is not the role of the ADN program. We are not attempting to produce students who can immediately walk into this type of role. Faculty consensus: Administrative data was lacking in specificity and useability; the respondents tended to lump all ADN programs together; gave general evaluation of two-year nurses.

Conclusions

It appears that efforts to predict applicant outcomes are now and always will be an important part of any comprehensive nursing education program. The need is especially acute in situations where high attrition takes place very early after admission. Often, in this kind of circumstance, faculty and staff cannot identify potential dropouts quickly enough to assist in defining and resolving the problems that are precipitating decisions to leave nursing.

Findings from this study indicate that the most valid descriptor of nursing program failures is sex. Only 2 out of 9 males sampled by this study graduated from the program. Also, those who dropped out of the program worked an average of 11 hours more per week, than successful students, while they were enrolled in the program.

Although the high attrition rate of the nursing students was not apparently due to intellectual incapacities; most reasons given for withdrawal were program related. About 30 percent of the reasons given for withdrawal had something to do with the counting of behaviors required by precise behavior management as an integral part of the program.

Over three-quarters of the dropouts indicated that they would have liked to have remained in the program. The most frequent responses to "What could we do to help you stay?", were "nothing" and "drop the counting of behaviors".

Lack of interest in nursing was definitely not a major reason for withdrawal from the program since 68 percent of the dropouts are employed in some area of nursing.

The graduates felt that M.H.C.C.'s instruction and curriculum content was better than other programs, while they felt diploma schools of nursing had better clinical experiences.

Graduates felt that the interaction and supervisory types of skills were most useful in their job settings and they also indicated that they had to acquire additional expertise in this area as a consequence of their professional practice.

Although dropouts disliked precise behavior management, almost three-quarters of the graduates indicated that they presently use precise behavior management.

The graduates provided excellent suggestions regarding curriculum revisions and most all their recommendations resulted in favorable reactions by the nursing faculty.

It is evident that the responses from supervisors and nursing administrators were too general, and that they were unclear as to the role of A.D.N. programs in general, much less Mt. Hood Community Colleges' program specifically. It appears that there is a general lack of communication between persons preparing the associate degree nurse and persons using her service.

On-the-Job Performance Comparison Follow-up Study

The Mt. Hood Community College Nursing Program has developed a curriculum based upon competency through performance, using the Precise Behavior Management Systems Model which allows for daily counting and recording of a variety of behaviors and feelings, as well as quarterly cumulative computerized data storage, analysis and feedback.

The curricular outcomes of the nursing program are called program product behaviors. They are the feelings which demonstrate sensitive caring relationships and the behaviors in which the student has demonstrated proficient performance after the first quarter (Aide level) and the first (L.P.N. level) and second (A.D.N. level) years in the nursing program and are divided into the following categories:

1. Interpersonal relations
2. Application of nursing skills and concepts
3. Patient teaching
4. Giving personalized nursing care
5. Feelings about patients, the nursing profession and the nursing care given by the student

The program product behaviors were developed after surveying opinions of patients, students in other nursing programs, M.H.C.C. administrators, practical nursing and associate degree nursing faculty, hospital administrators, directors of nursing, practicing R.N.'s and the literature. A partial listing of program product behaviors follows in Table 7-12.

TABLE 7-12

Some Program Product Behaviors

1. Applies nursing concepts - correctly.
2. Applies nursing concepts - L.O.*
3. Applies nursing skill - correctly.
4. Applies nursing skill - L.O.*
5. Personalizes patient care.
6. Depersonalizes patient care.
7. Feels positive about nursing care given by self.
8. Feels negative about nursing care given by self.
9. Judges interpersonal contact sensitive.
10. Judges interpersonal contact insensitive.
11. Teaches patient - correctly.
12. Teaches patient - L.O.*

*Learning Opportunity - incorrect demonstration of nursing competency or perceived opportunity without demonstration by the learner.

Courses are developed consistent with program objectives and outcomes (program product behaviors). Courses are measured as to their effectiveness in relation to competent student performance of the course behaviors and acceleration of program product behaviors.

Data regarding student and faculty performances are recorded on Daily Behavior Charts and then quarterly on computer forms, and analyzed to provide information regarding individual student and faculty performance, performance of all students in each course, and acceleration in relation to program product behaviors. A sample of the Daily Behavior Chart and of computer forms is included in the Appendix. The computerized analysis and feedback system is an integral part of on-going evaluation of individual student progress and the success of the nursing program in meeting its stated goals.

The purpose of this study was to make a direct comparison between the student's performance in his/her last term in the nursing program and actual on-the-job performance after graduation. The measure used for making this comparison was the celeration of program product behaviors, which are relevant nursing behaviors within Mt. Hood Community College's competency based nursing program.

Methodology

Nine members of the first R.N. graduating class of '73, who are currently employed in health care settings, were asked to count and chart the 6 behavior pairs (see Table 7-12 · Some Program Product Behaviors) that they were required to count as students in the Mt. Hood Community College Nursing Program. In addition, two other behaviors were recorded. These two behaviors reflected instances where the individual felt prepared for the job requirements or felt unprepared.

In order to get an overall best indicator, the individual student counts were first summarized by combining across students and across the following two groups of pinpoints:

GROUP A (Correct Nursing Behaviors)	GROUP B (L.O. Nursing Behaviors)
Applies nursing concepts - Correct	Applies nursing concepts - L.O.
Applies nursing skill - Correct	Applies nursing skill - L.O.
Personalizes patient care	Depersonalizes patient care
Feels positive about nsg. care by self	Feels negative about nsg. care by self
Judges interpersonal contact sensitive	Judges interpersonal contact insensitive
Teaches patient - Correct	Teaches patient - L.O.

RESULTS

Overall Performance in School and Later Employment

Utilizing this combination and taking the middle weekly frequencies of these two groupings, these two performances can be seen in Figures 7-1 and 7-2.

Figure 7-1

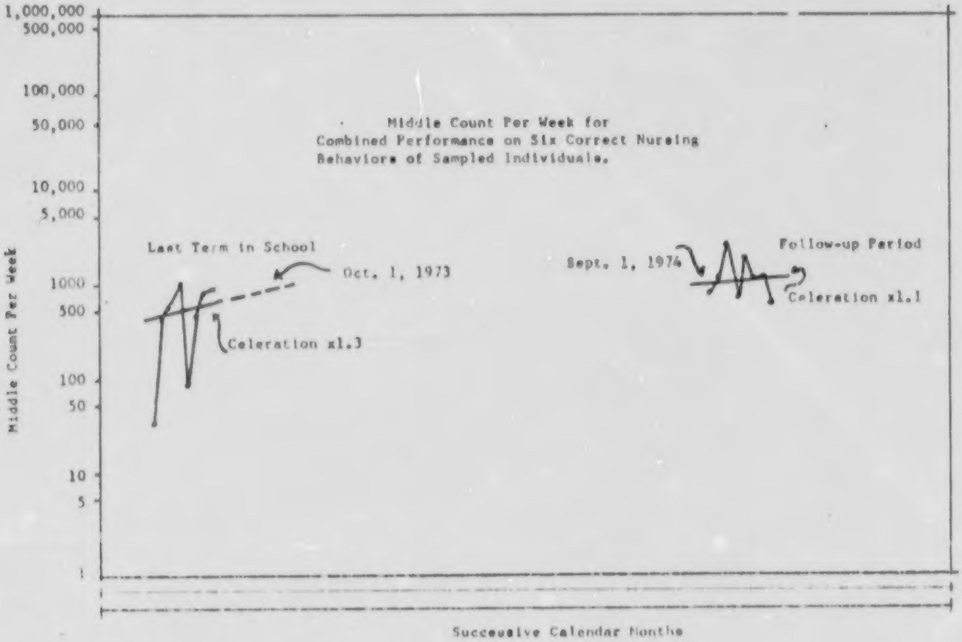


Figure 7-1 describes the combined middle weekly occurrence of correctly used nursing skills. It can be seen that during the last term in school the overall frequency is somewhat lower than in the subsequent job placement.

However, given the celeration during this period of time, which was at times x1.3 (30% increase every month), we can adequately predict that by October 1, 1973, which was the median date of employment of these individuals, their performances would have been at levels equal to that required in an employment setting.

It is suggested here, as has been described in previous reports, that students were able to demonstrate nursing skills at a competent level while in school and the difference between the last term in school and subsequent job performance indicates on-the-job gains in proficiency. As will be characteristic for all the data shown, job performance appears to be more stable and less variable, which in part can be accounted for by the fact that in an educational setting, performances indicate the acquisition of skills as opposed to the maintenance of these behaviors.

Figure 7-2

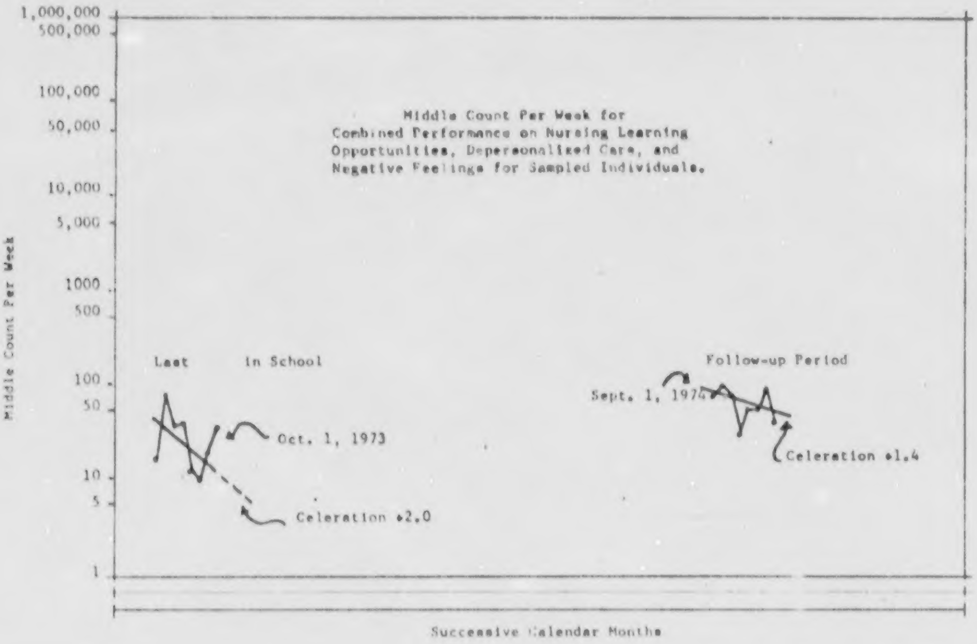
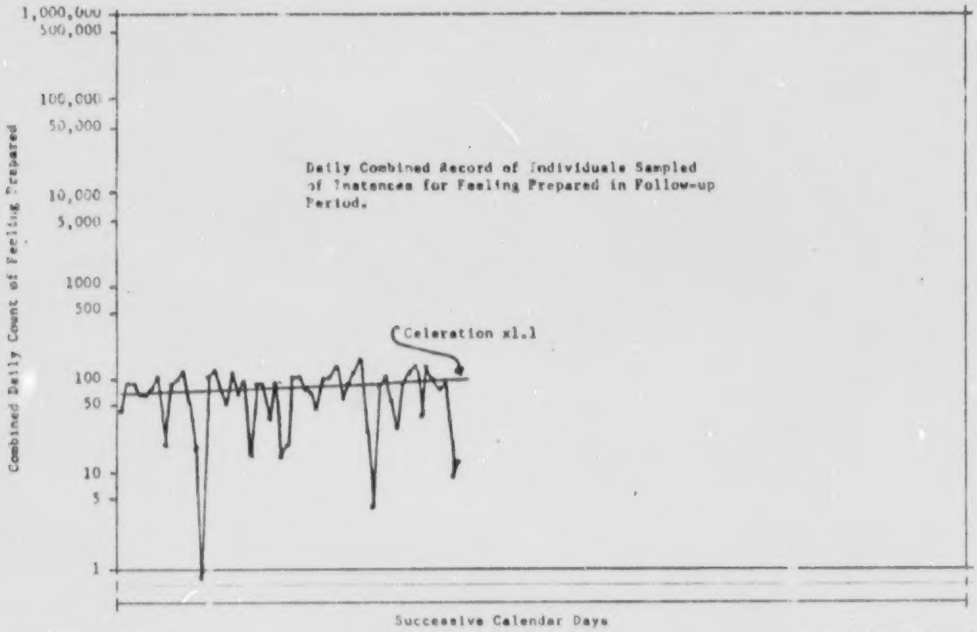


Figure 7-2 describes learning opportunities, depersonalization of care, and negative feelings. It has oftentimes been assumed that learning opportunities which potentially could be construed as incorrect responding, are unique to the educational setting, but in reality, as suggested by Figure 7-2, they occur just as frequently in an employment setting, and can be just as meaningful if brought to the same level of awareness in an employment setting as in an educational setting. Since in both the last term in school and in the follow-up period there was deceleration in Figure 7-2 and acceleration in Figure 7-1, we can conclude that an advantage of direct daily recording is that it can function as an intervention to both decrease missed opportunities and increase the use of appropriate nursing behaviors.

Feeling Prepared

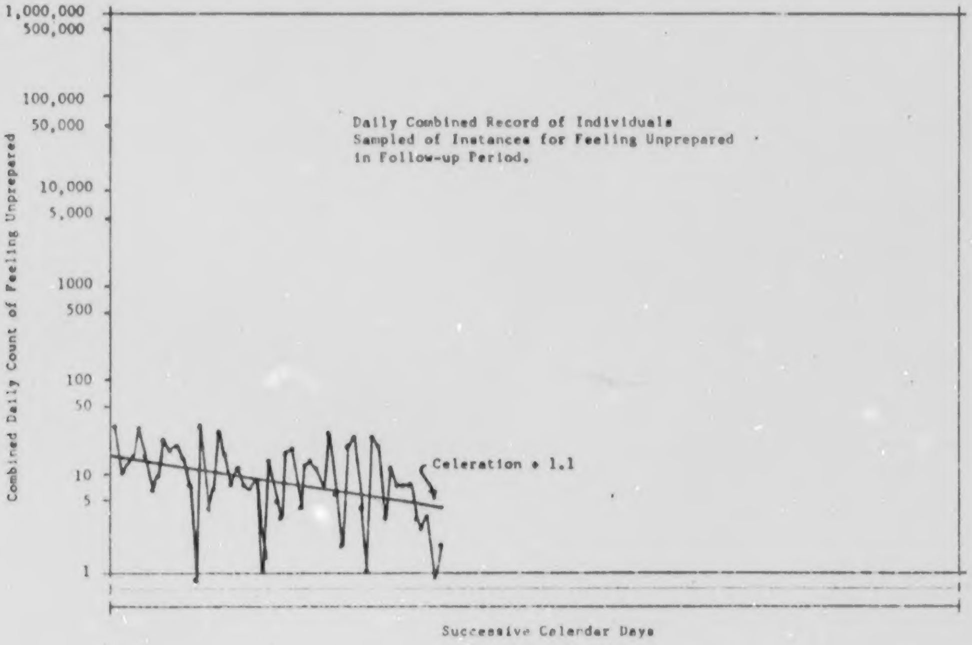
Figures 7-3 and 7-4 show daily occurrences, for the combined group sampled, of instances of feeling prepared and unprepared relative to job performance.

Figure 7-3



We can see descriptively that there is a relatively high frequency (50 to 100) of feeling prepared which is fairly stable, and while slightly increasing, essentially remains invariant.

Figure 7-4



Again, it would appear that individuals maintaining a record of feeling unprepared either increase their feeling of preparedness or make themselves more critically evaluate, remediate, etc., their performance.

Affective and Interpersonal Skills

One of the unique aspects of Mt. Hood Community College's nursing program is an emphasis on teaching affective and interpersonal skills with patients and peers. As other data from the follow-up study have indicated, students feel this is a strength of the program.

Figures 7-5, 7-6, 7-7, and 7-8 attempt to parcel out these feelings from nursing skills and concepts.

Figure 7-5

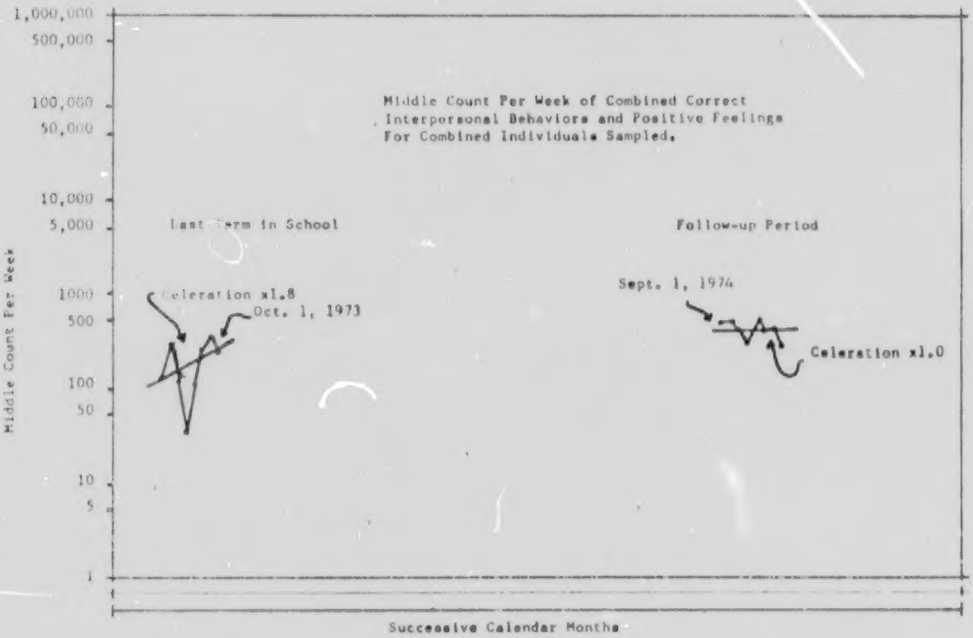


Figure 7-5 is the middle weekly occurrence for all sampled individuals combining interpersonal behaviors and positive feelings. As can be seen, there is an acceleration of x1.8 during the last term in school which essentially predicts the proficiency of these behaviors in the work setting in the follow-up period. Again, as has been noted with the other charts, performance during the follow-up period is more stable with no change over time. The overall performance for the last term in school is lower than that of the follow-up period but is accelerating at a greater rate.

Figure 7-6

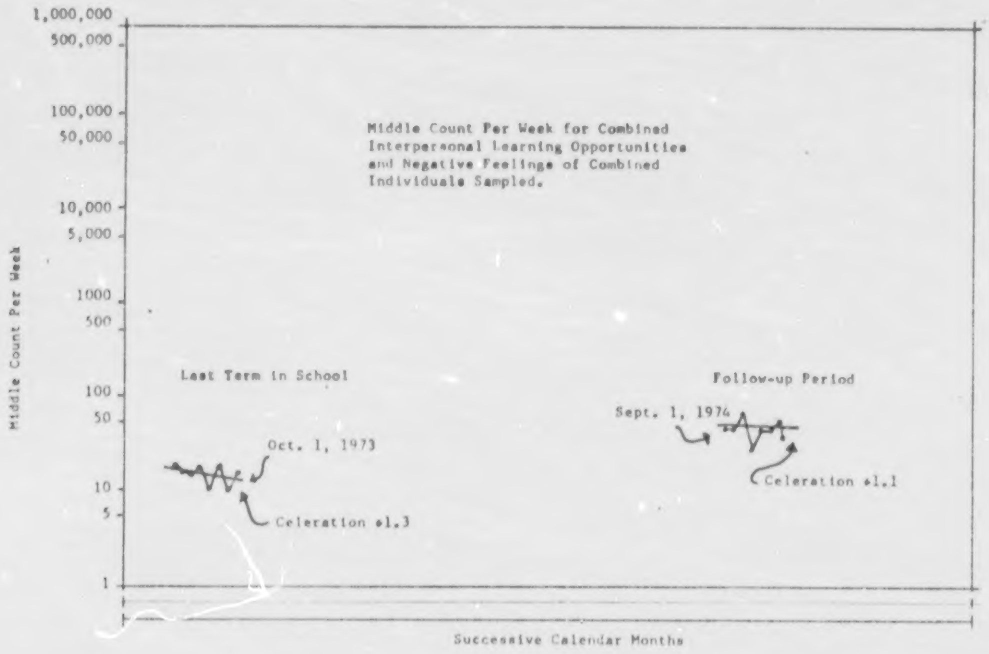
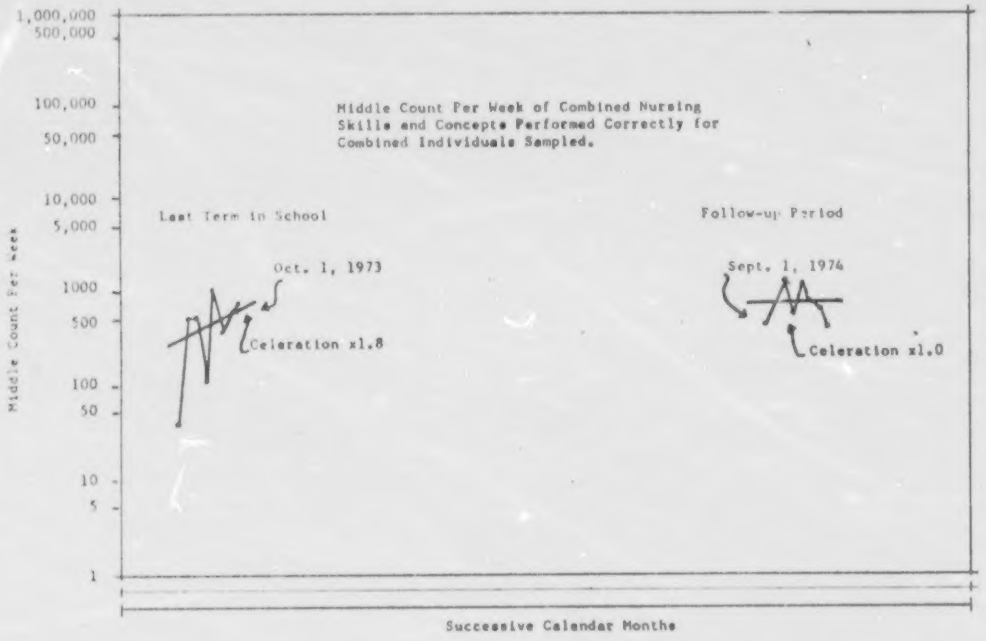


Figure 7-6, which in some ways may have implications for job satisfaction, suggests that interpersonal learning opportunities and negative feelings have a substantially higher occurrence in the job setting than the educational setting. An alternative explanation would be that, in an employment setting, the opportunity to have sustained interpersonal contact is greater (combining the performances of both Figures 7-5 and 7-6).

Figure 7-7



Nursing Skills and Concepts

Figures 7-7 and 7-8 show the middle occurrence per week of the combined performance of nursing skills and concepts. The overall frequency, particularly during the last month of the school term, and during the follow-up period are essentially the same. The celeration seen for the school term is certainly a consequence of the acquisition of those skills. It is important to recognize that the occurrences, i.e., proficiency, of these skills are terminally achieved by the end of the quarter and are reflective of a relatively stable and non-changing performance in the follow-up period.

Figure 7-8

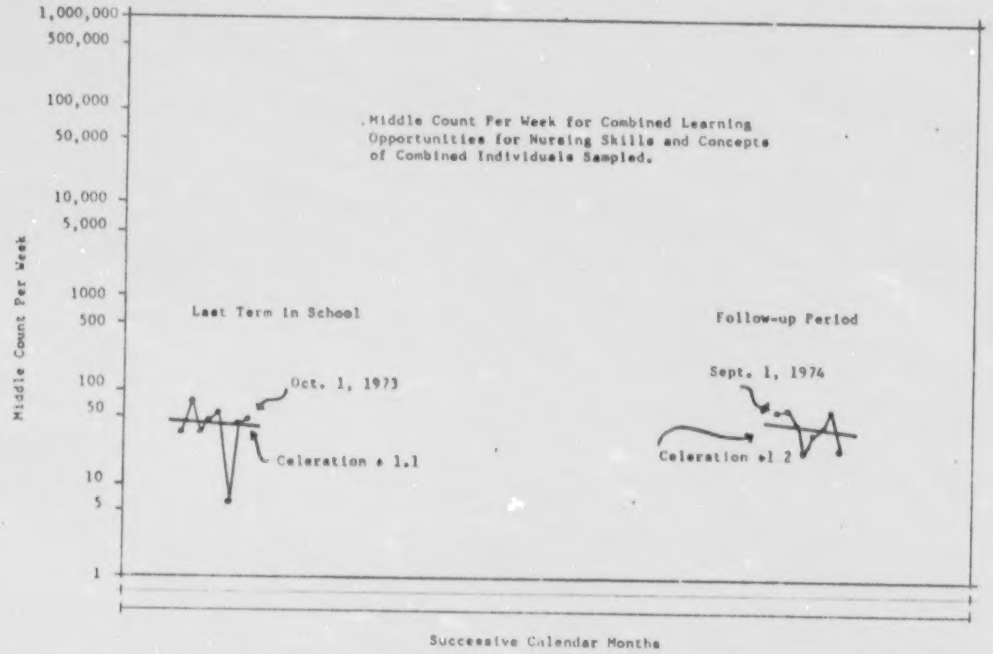


Figure 7-8 shows learning opportunities for nursing skills and concepts, and interestingly enough, they are very similar for both periods of time.

Conclusions

If we examine correct performance and positive feelings in the individual pinpoints, we find that 8 percent of the behaviors during the follow-up were not changing or were at x1.0. Fifty percent, during the last term of school, were increasing, while only 25 percent were increasing in the follow-up. None were decreasing in the last term, and 17 percent were decreasing in the follow-up. For the learning opportunities, they were evenly distributed except that in no instances were they stable over time. Table 7-13 summarizes this information.

Table 7-13

	No Change		Increasing		Decreasing	
	Last year	Follow-up	Last year	Follow-up	Last year	Follow-up
Correct	---	8%	50%	25%	---	17%
Learning Opportunities	---	---	8%	8%	42%	42%

Overall, the median frequency for each performance was greater for the follow-up than the last term in school. This is summarized in Table 7-14.

Table 7-14

Middle Occurrence Comparing Last Term in School
Relative to Follow-up

	Follow-up Greater	Same	Follow-up Less
Correct	84%	16%	---
Learning Opportunities	67%	33%	---

While the median frequency was lower while in the nursing program, the growth (celeration) was greater, and we could roughly predict the growths in performance in the employment settings, given performances during the last term in school.

In all instances, job performance is less variable than school performance, probably because in an educational setting, performances indicate the acquisition of skills as opposed to the maintenance of these behaviors.

Learning opportunities occur just as frequently in an employment setting as in an educational setting, and should definitely be brought to a high level of awareness in the employment settings.

Interpersonal learning opportunities and negative feelings occur in greater frequency on the job. This is probably due to the greater number of sustained interpersonal contacts found on the job. These feelings may in part, account for the high job turnover rate among professional nurses.

EVALUATION OF OBJECTIVE 7

As originally stated in the grant application, Objective #7 consisted of six planned activities. Table 7-15 lists each of these planned activities, the extent to which each activity was completed and justifications for evaluating the extent to which each activity was completed. Overall, Objective #7 was 91 percent successfully completed.

TABLE 7-15

EVALUATION OF OBJECTIVE 7

OBJECTIVE: Do follow-up of graduates who have completed one or more levels of the program and those who dropped out before completion of one or more levels.

PLANNED ACTIVITIES	PERCENTAGE COMPLETED	JUSTIFICATION FOR EVALUATION
1. Locate all graduates and dropouts and describe their present circumstances.	96%	88 of 92 possible students polled
2. Develop opinionaire to assess feelings and attitudes related to competencies acquired in the nursing program and/or used in the job setting.	100%	See Appendices 7-3 through 7-7
3. Arrange for graduates of ADN level to keep performance records of their use of program product behaviors in the employment setting.	100%	See Figures 7-1 through 7-8
4. Collect and analyze performance data acquired from graduates.	100%	See Figures 7-1 through 7-8
5. Generate from graduates at each level behaviors needed in employment setting but not offered in educational setting.	100%	See Tables 7-8, 10 and 11 (RN and LPN)
6. Determine maintenance level for program product behaviors by graduates of each level.	50%	See Figures 7-1 through 7-8 but only for RN's, not for LPN's
OVERALL EVALUATION	91%	Average percentage completion of above activities

OBJECTIVE 8

CONTINUE REFINEMENT OF LEARNER COMPETENCIES FOCUSING ON RELATIONSHIP OF PERFORMANCE REQUIREMENTS FOR GRADUATION AND SUBSEQUENT OCCUPATIONAL DEMANDS.

BRIEF DESCRIPTION

Refining competencies relevant to subsequent occupational demands is a composite objective considered in this project to be completed when the following five objectives are completed.

1. Develop conceptual logic that responds to the content of nursing... to multiple entry and exit criteria...
2. Develop instructional logic that responds to the content of nursing... to multiple entry and exit criteria...
3. Identify instructional materials necessary to provide to the learner alternatives for reaching performance outcomes.
5. Interface entry and exit criteria with college .... procedures and policies.
7. Do follow-up of graduates .... and those who dropped out...

During the 1974-75 school year every faculty member has rewritten the learner competencies required in their section of the Nursing Program. Further, Table 7-10 shows the extent to which program graduates feel their college training relates to occupational demands.

EVALUATION OF OBJECTIVE 8

The extent to which this Objective has been completed is shown in Table 8-1 and is the composite from Objectives 1, 2, 3, 5 and 7.

Table 8-1

Evaluation of Objective 8*

Objective: Continue refinement of learner competencies focusing on relationship of performance requirements for graduation and subsequent occupational demands.

Planned Activities	Percentage Completed	Justification of Evaluation
See Objective #1 Activities	100%	See Evaluation of Objective #1
See Objective #2 Activities	92%	See Evaluation of Objective #2
See Objective #3 Activities	86%	See Evaluation of Objective #3
See Objective #5 Activities	90%	See Evaluation of Objective #5
See Objective #7 Activities	91%	See Evaluation of Objective #7
Overall Evaluation	92%	Average Percentage Completion of Objectives #1, #2, #3, #5 and #7

*Note: Objective 8 will be reached in meeting Objectives #1, #2, #3, #5 and #7.

INSERVICE OBJECTIVE (ADDENDUM)

INTRODUCE AN IN-DEPTH UNDERSTANDING OF COMPETENCY BASED EDUCATION TO THE MT. HOOD COMMUNITY COLLEGE FACULTY

PRODUCT

- Fourteen Mt. Hood Community College Faculty members exposed to Competency Based Education.

PROCESSES

- Inservice training course.

In an effort to introduce an in-depth understanding of Competency Based Education to the Mt. Hood Community College faculty, the A.D.N. faculty and project staff presented an all-campus inservice in April, 1975. The idea of offering such an inservice was put forth in the 1974-75 proposal addendum by the Dean of the College, Dr. Louis Herkenhoff.

Planning

Planning for the inservice was begun in February, 1975, by the nursing faculty and project staff in coordination with the Dean of Academic Affairs, Dr. Betty Pritchett. The dates for the sessions were chosen following a computer analysis of available faculty time and, to avoid conflict with other campus activities, consideration was given to previously scheduled campus events. Three consecutive Tuesday afternoons, April 15, 22, and 29 from 3:00 p.m. to 6:20 p.m., were chosen on the basis of this analysis.

Arrangements were made to offer the inservice as a one credit course entitled "Competency Based Education in the Community College", through the Division of Continuing Education. The college paid the tuition costs of all faculty members wishing to receive credit for the course. The Office of Academic Affairs handled all publicity and registration materials.

The intent of the inservice was two fold: 1) to share with other campus faculty the process for developing and implementing an innovative educational program, and 2) to demonstrate how these same ideas could be applied to other disciplines. It was felt that a very effective way to demonstrate this would be to teach by example, i.e. setting the inservice up as a competency based class using the course outline and class format developed by the nursing program. Audio-Visual resources were utilized when possible. In this way, the outline and inservice format were, in a sense, part of the course content.

General objectives of the inservice were stated and competencies written to meet these objectives. This information was written in a "Write-Say-Do" outline which is attached to this report (Appendix A-1).

Inservice Sessions

First Session

In a discussion led by the inservice session leaders, participants were introduced to the philosophical basis for Competency Based Education and its implications for the teaching and learning process. Two articles were made available as an introduction to Competency Based Education. These were: "Philosophical Basis for Competency-Based Education" by Joe Lars Klingstedt, and "Psychological Implications of Competency-Based Education" by Jon I. Young and Adrian P. Van Mondfrans.

Participants next were involved in an exercise designed to teach them to "pinpoint" behavior. The exercise consisted of watching a video tape and recording specific behaviors observed. The participants were then introduced to the rules of "pinpointing" and asked to make the behaviors they identified "fit" the rules. Appendix A-2 contains a brief test given to the participants after they had each practiced "pinpoint" behavior and correcting errors made. The relationship between "pinpointing" behavior and specifying behavioral outcomes in the classroom was explained so that participants could complete the "write" competencies for the next session.

Second Session

Each participant met with a session leader to check and correct his/her written homework competencies. Utilizing sections chosen from their written competencies, participants took part in a presentation and work session in programming and sequencing the content to be taught. Session leaders assisted the individuals in correctly completing the competencies in this section. After some experience in specifying the components of behavioral outcomes and sequencing the content to be taught, participants discussed the pro's and con's, advantages and disadvantages of specifying curriculum in a Competency Based program.

Third Session

Participants presented their ideas on how evaluations could be made of students in a Competency Based Educational system and how these were similar to or differed from evaluations made in a traditional system. Session leaders briefly introduced participants to the Precise Behavior Management System and the Standard Daily Behavior Chart. Session activities were concluded with a brief discussion of the final written competencies covering resource materials, that could be utilized for individualized learning in Competency Based Education, and the administrative problems usually encountered in implementing Competency Based Curriculum.

EVALUATION OF INSERVICE OBJECTIVE

As an addendum, the inservice objective is not included in the overall evaluation of this project. The following information on participation, for credit, of 14 faculty members representing 12 disciplines provides some evaluative information, however.

Fourteen persons received credit for the Competency Based Education inservice, however, the number of participants exceeded this at each session since not all had registered for credit. A number of liberal arts and Vo-Tech disciplines were represented by the participants including: Astronomy, Business Education, Cosmetology, Study Skills, Office Education, Civil Engineering, Industrial Technology, Horticulture, Math, Psychology, Legal Secretarial and Physical Therapy Assistant. Session leaders felt this cross section of participants enhanced the workshop through the exchange of ideas and sharing of problems in developing and implementing Competency Based Education in many subject areas.

In the final analysis, an understanding of Competency Based Education will be reflected in its application. If the participants, in the course described above, incorporate Competency Based Education into their programs, then the Inservice Objective of this project will be considered successfully completed. At this time it is too early to fairly evaluate the success of the inservice course on Competency Based Education.

PROJECT SUMMARY

The goals of the Articulation of Competency Based Education for Nursing project were successfully met at an 89 percent level. The conceptual logic application to curriculum content headed the list as the most successful objective. It was followed by refinement of learner competencies and instructional logic. Both follow-up and interfacing with college admission were close in the fourth and fifth position. The three objectives which caused the overall level of accomplishment to be below 90 percent were refining exit criteria, alternative materials for reaching outcome and entry criteria for learners.

While the project staff and faculty were pleased with the results, many additional needs for program development surfaced. Of primary concern is the need to evaluate the effectiveness of the Conceptual Logic Packets for functional outcomes in relation to time spent in acquisition, need for instructor input, and performance outcome versus previous methods for learning. If proven effective, there will be a need for many more Learning Packets for teaching major concepts and related competencies. Also needed are more resources for audio-visual materials, as alternative and supportive materials. Implementation and follow-up evaluation of the screening tool is needed to test its validity in predicting which applicants have the greatest chance of graduating from the program. The strategy for rapid assessment for placement within the program is yet to be implemented and tested for effectiveness. The faculty has expressed a desire to pursue the above needs until developments are completed. In this way continuation of this project is assured.

Table S-1

Overall Project Evaluation

OBJECTIVE	PERCENTAGE COMPLETED
#1: Develop conceptual logic that responds to the content of nursing as an applied science, to the learner, to multiple entry and exit criteria and to the utilization of faculty.	100%
#2: Develop instructional logic that responds to the content of nursing as an applied science to the learner, to multiple entry and exit criteria and the utilization of faculty.	92%
#3: Identify instructional materials necessary to provide to the learner alternatives for reaching performance outcomes.	86%
#4: Develop behavioral entry criteria for learners.	72%
#5: Interface entry and exit criteria with college admission, placement, registration and transcript procedures and policies.	94%
#6: Refine exit criteria.	88%
#7: Do follow up of graduates who have completed one or more levels of the program and those who dropped out before completion of one or more levels.	91%
#8. Continue refinement of learner competencies focusing on relationship of performance requirements for graduation and subsequent occupational demands.	92%
OVERALL PROJECT EVALUATION	89%

BIBLIOGRAPHY

Bloom, Benjamin S., Hastings, J. Thomas, and Madaus, George F.: Handbook on Formative and Summative Evaluation of Students Learning. McGraw-Hill Book Company, New York, 1971.

Backman, Margaret E., Steindler, Frances M., "Cognitive Abilities Related to Attrition in a Collegiate Nursing Program:, Nursing Outlook, Vol. 19, December, 1971.

Burgess, Michael M., Duffey, Margery, and Temple, Frances G., "Two Studies of Prediction of Success in a Collegiate Program of Nursing:, Nursing Research, Vol. 21, No. 4, 1972.

Buros, Oscar Krisen, Editor, The Sixth Mental Measurements Yearbook, Gryphon Press, Highland Park, New Jersey, 1965.

Cohen, Helen A., and Gesner, F. Pauline, "Dropouts and Failures: A Preventive Program", Nursing Outlook, Vol. 20, November, 1972.

Englemann, Siegfried, Conceptual Learning, Simon and Schuster, New York, 1969.

Forrest, Aubrey, Ferguson, Richard and Cole, Nancy, "The Narrative Transcript: An Overview", Educational Record. v. 56 #1 Winter, 1975.

Levitt, Eugene E., Lubin, Bernard, and DeWitt, Kathryn N., "An Attempt to Develop an Objective Test Battery for the Selection of Nursing Students", Nursing Research, Vol. 20, No. 3, 1971.

Singh, Amarjit, "The Predictive Value of Cognitive Tests for Selection of Pupil Nurses:, Nursing Times, June 8, 1972.

University of the State of New York, Regents External Degree Program, "Study Guide - Clinical Performance in Nursing Examination", January, 1975.

Wittmeyer, Alma L., Camiscioni, John S., and Purdy, Patricia A., "A Longitudinal Program", Nursing Research, Vol. 20, No. 4, 1971.

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APPENDICES

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APPENDIX 2-1

Sample Learning Packet

Introduction to Circulatory System

SECTION 1

Introduction to Circulatory System

Your HEART is a pump. It pumps a fluid throughout your body. The fluid is BLOOD. The blood is pumped by the heart through pipes. Some pipes carry blood away from the heart. These pipes are ARTERIES. Some pipes carry blood to the heart. These pipes are VEINS. In a healthy body, all the blood pumped out of the heart comes back to the heart after moving through the pipes. None of the blood leaks out. This kind of system is called a CLOSED system and looks like Figure 1.

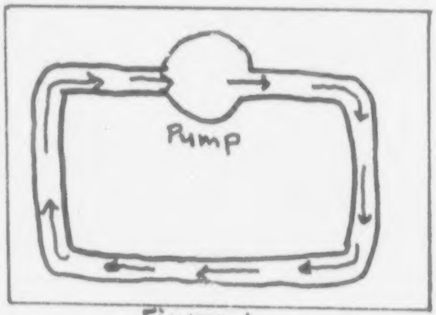


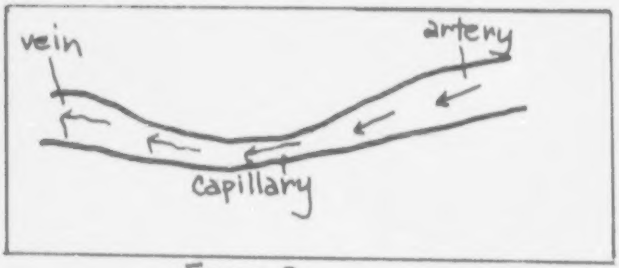
Figure 1

This is a CLOSED system. The arrows in the pipe show the direction of blood flow.

In your body, the pump is the ___________. Two kinds of pipes are:
(1) pipes carrying fluid away from the pump - these pipes are called __________;
(2) pipes carrying fluid to the pump - these pipes are called ___________. The fluid pumped and carried through the pipes is _________. None of this fluid leaks out. What kind of system is this? [Open, closed.]* (Circle one.)

There is one more kind of pipe - CAPILLARIES. The capillaries carry blood from the arteries to the veins. The capillaries are the smallest pipes that carry blood in your body. See Figure 2.

*In all future questions where there are brackets around two or more choices, circle what you think is the correct one.



The arrows in the pipes show the blood flow.

Figure 2

Figure 3 shows the heart, and the pipes that carry the blood.

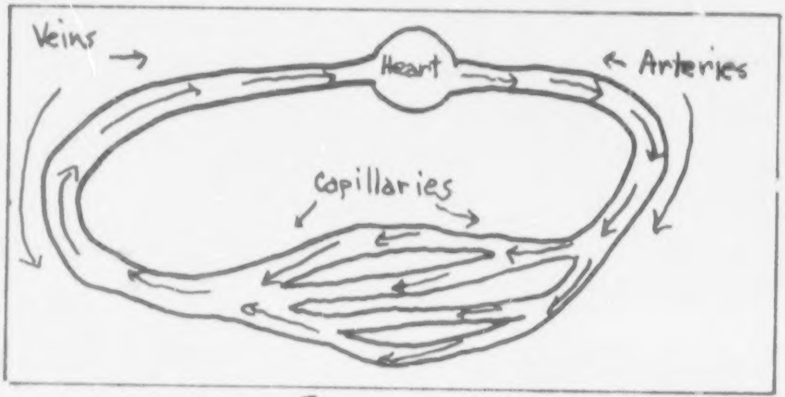


Figure 3

The arrows in the pipes show the direction of blood flow. The entire system of pump, pipes and fluid, as shown in figure 3, is called CIRCULATORY SYSTEM.

Exercise 1.

Match the term with its correct description. Put the correct letter in the blank.

1. Pipes that carry fluid away from the pump. ____
2. The fluid pumped through your body. ____
3. The smallest pipes in your body. ____
4. The name for the whole system of pump, pipes and fluid. ____
5. The pipes that carry fluid to the pump. ____
6. The term describing a system where fluid is pumped around and none leaks out. ____
7. The pump in your body. ____

Letters are on next page.

A. Veins

B. Heart

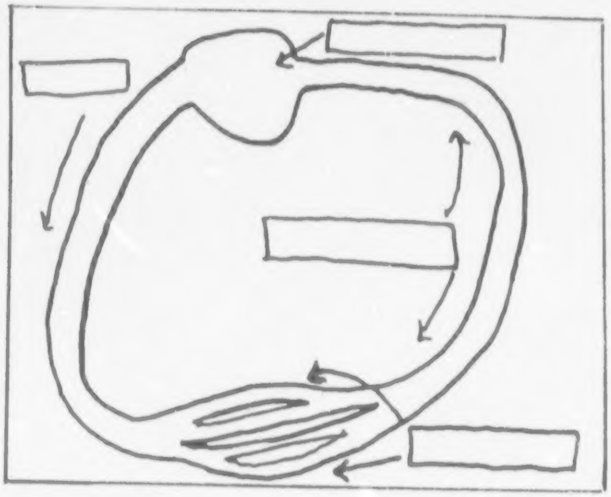
C. Circulatory System

D. Arteries

E. Capillaries

F. Blood

G. Closed System



Using the same letters in the above exercise, fill in the four boxes in the figure.

Experiment 1.

Equipment: syringe, water.

A. (1) Pull the plunger of the syringe as far back as possible. The empty space inside the syringe is filled with air. This space is the air's volume.

(2) Place a finger tightly over the open end of the syringe.

(3) Slowly push the plunger as much as you can.

Questions

(1) Did the plunger move most of the way down the syringe? __________

(2) Did the air's volume inside the syringe get larger or smaller?

____

(3) Did you feel pressure on the finger held over the open end as the plunger approached the bottom of the syringe? __________

You have made the volume of air inside the syringe smaller by applying pressure to it. Making something's volume smaller with pressure is called compression. When you pushed the plunger, you compressed the volume of air. If something can be compressed, it is called compressible. Air is compressible. In fact, all gases, and air is a gas, are compressible.

B. (1) Place the syringe in water and slowly pull the plunger back. The syringe will now fill up with water. The space the water takes up inside the syringe is the water's volume.

(2) Again place a finger tightly over the open end of the syringe.

(3) Slowly push the plunger as far as it will go. Don't let any water leak out of the syringe.

Questions.

(1) Did the plunger move most of the way down the syringe? __________

(2) Did the water's volume inside the syringe get larger, smaller or stay the same? __________

(3) Did the water get compressed like the air did when you pushed the plunger? __________

When you pushed the plunger, you applied pressure to the water in the syringe. Unlike the air, the volume of water did not change. (If you didn't see this, re-do the experiment.) The water is not compressible. Under normal conditions all fluids, and water is a fluid, are not compressible.

RULE 1. FLUIDS ARE NOT COMPRESSIBLE.

Exercise 2.

1. Look at the following list of substances and write "G" in the first space next to the word if it is a gas. Write "F" if it is a fluid.

   a. Milk _____ _____
   b. Air _____ _____
   c. Helium _____ _____
   d. Grapefruit juice _____ _____
   e. Carbon dioxide _____ _____
   f. Blood _____ _____
   g. Smog _____ _____
   h. Hydrogen _____ _____
   i. Water _____ _____
   j. Oil _____ _____

   In the discussion following part A of the experiment, you learned that gases are [compressible, not compressible]. From the rule about fluids, you learned that fluids are [compressible, not compressible]. Go back to the above list and in the second space next to the word write "C" if it is compressible and "N" if it is not compressible.

2. The fluid in the body's circulatory system that is pumped around the body is called _________. The rule about fluids and compression says fluids are _______ _______________. So, blood is [compressible, not compressible].

3. The pump that pumps the blood around the body is called the ___________.

4. The blood is pumped through pipes around the body. Some pipes carry blood away from the heart. They are called ______________. Some pipes carry blood to the heart. They are called _______________.

5. There is one other kind of pipe in the body. These pipes are the smallest pipes and they carry blood from the arteries to the veins. They are called ___________________.

6. The whole system of pump, pipes and fluid is called the ___________________ _________________________.

The heart, the pump of our circulatory system, pumps the blood by alternately CONTRACTING and RELAXING. When it contracts, the heart gets smaller. When it relaxes, it returns to its original size.

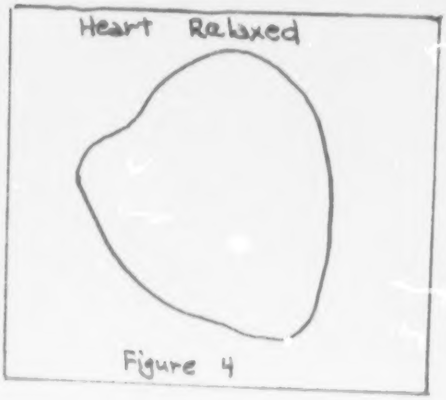


Figure 4

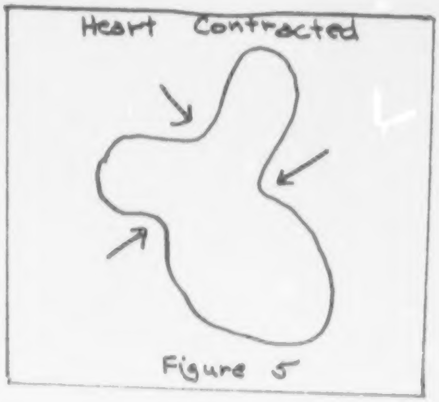


Figure 5

In Figure 4, the heart is relaxed. The space inside the heart is its volume. In Figure 5, the volume inside the heart changes. How does it change? [larger, smaller] If there were a substance filling the inside of the heart, when the heart contracted, pressure would be applied to that substance. There is such a substance - blood. When the heart contracts, pressure is applied to the blood inside. Can the volume of blood be made smaller by applying pressure? ________________________. State the rule that explains your answer. ____.

Since the volume of blood cannot get smaller, the pressure pushes the blood out of the heart and into the pipes. The pipes that take blood away from the heart are called ________. Once in the arteries, the blood continues to move. This movement occurs because of a second rule about fluids that says:

RULE 2: FLUIDS ALWAYS MOVE FROM AN AREA OF HIGHER PRESSURE TO AN AREA OF LOWER PRESSURE.

Figures 6 and 7 show pipes with high and low pressure areas labeled. The arrows show which way fluids in the pipes would flow.

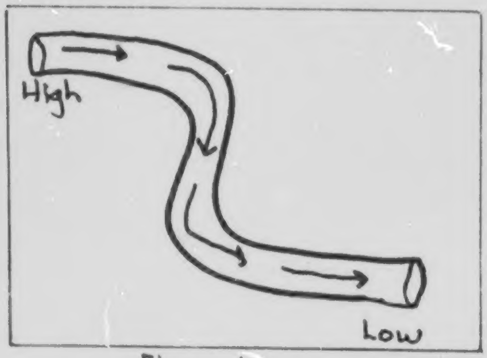


Figure 6

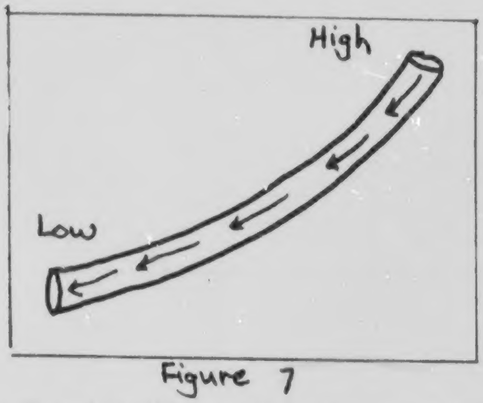
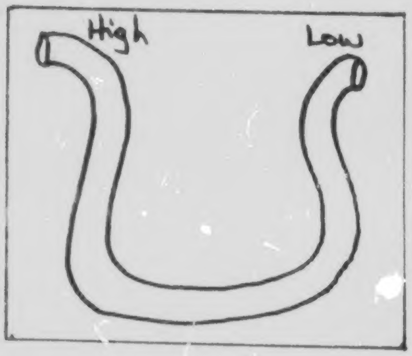
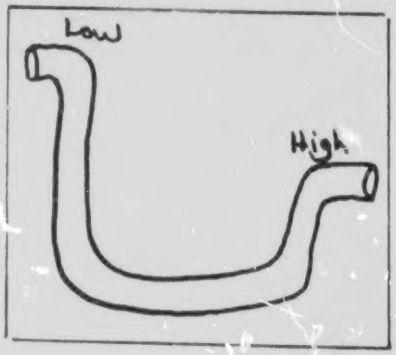


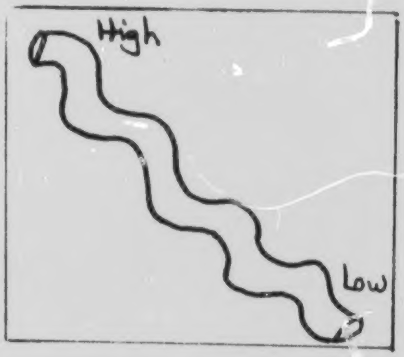
Figure 7

Now look at the figures in Exercise 3 and indicate with arrows which way the fluid would flow. Put your arrows inside the pipes just like in figures 6 and 7.

Exercise 3.







Now look at hypothetical pumps pumping fluid into pipes. The numbers in the pipes indicate the pressure of that area. The higher the number, the greater the pressure. The arrows show which way the fluid will move.

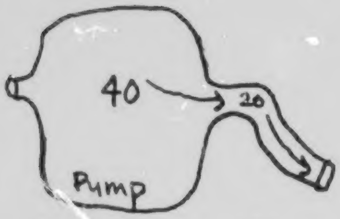


Figure 8

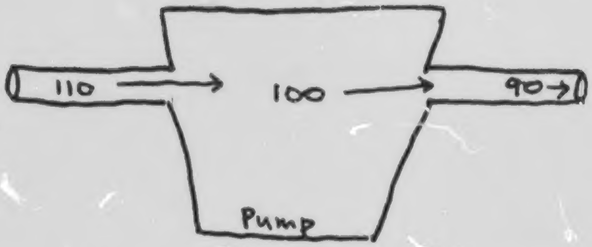


Figure 9

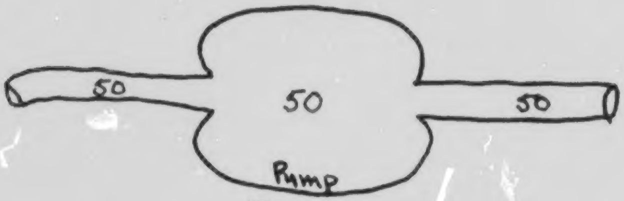
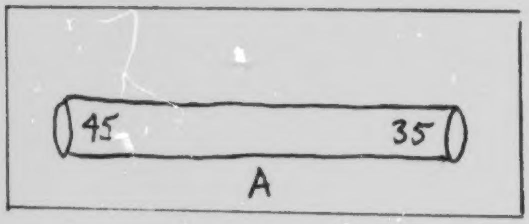
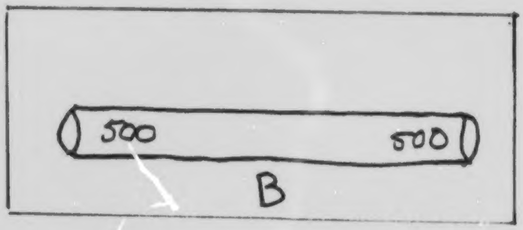


Figure 10

Figures 8 and 9 show the fluid moving from areas of higher to areas of lower pressure. Figure 10, however, shows no movement. That is because there is no pressure difference indicated. Fluids will only move if there are differences in pressure along the pipe. Differences in pressure means there must be areas of higher and lower pressure. The value of the pressure is not important. Only differences in the pressure cause fluid movement.

Exercise 4.





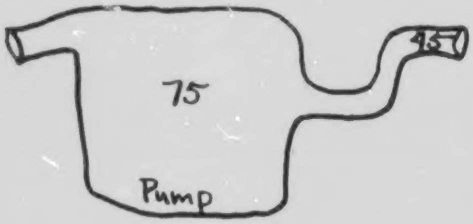
Look at the figures. In which figure will there be fluid movement?

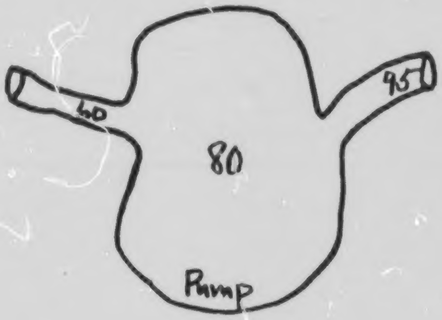
__________ Are there areas of higher and lower pressure in that figure?

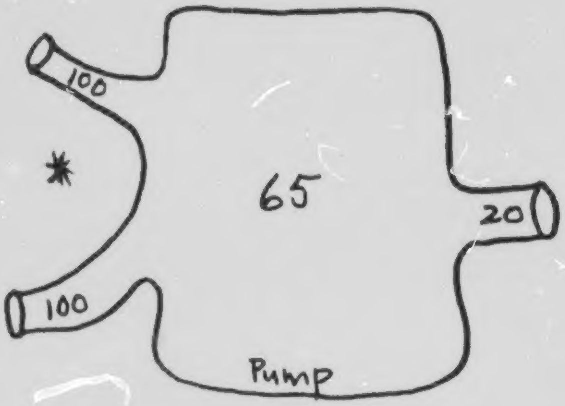
__________ Draw arrows in the pipe in that figure to show which way the fluid will move. Write "no movement" in the other figure.

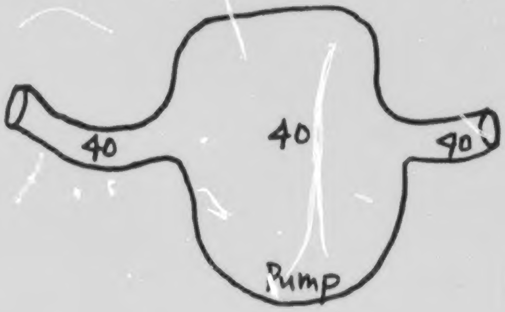
Exercise 5.

Look at the following figures. Show with arrows the direction the fluid will flow. If the fluid will not flow, write "no movement" under the figure. See figures 8, 9 and 10 if you have difficulty.





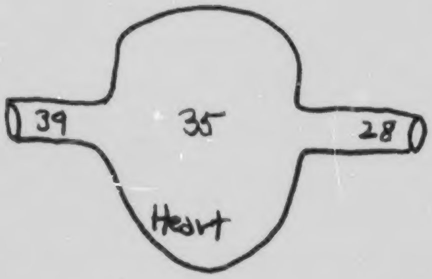


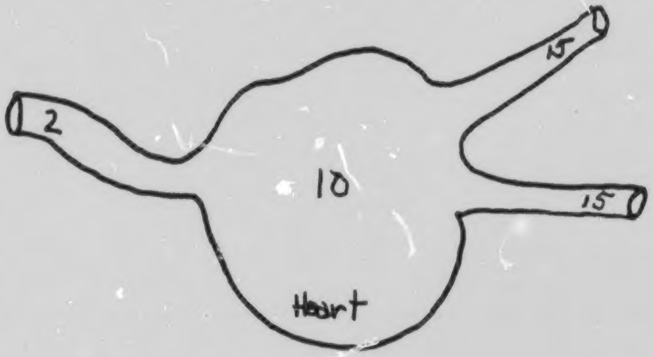


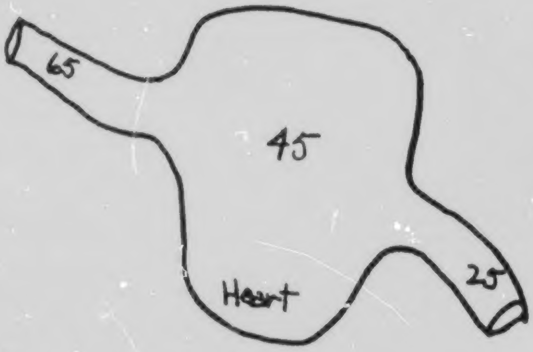
The heart resembles the situation in the starred figure. Two pipes carry the blood to the heart and one pipe carries the blood away from the heart. Pipes that carry blood to the heart are called __________. Pipes that carry blood away from the heart are called __________.

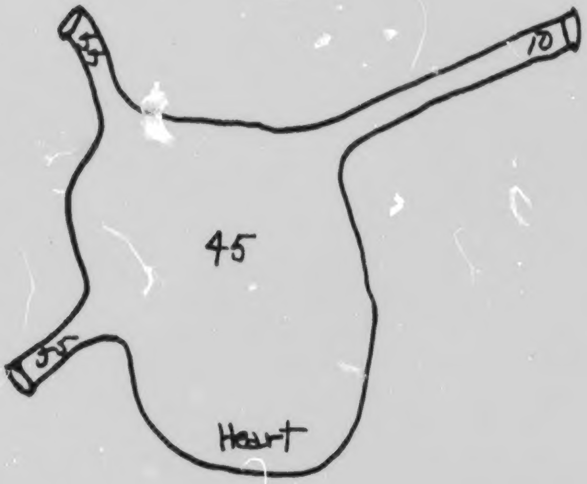
In the next exercise, follow the same procedure as in exercise 5. Then, after drawing arrows to show the flow, label each pipe: put an "A" next to the pipe if it is an artery and put a "V" next to the pipe if it is a vein.

Exercise 6.


39
35
28
Heart


2
15
10
15
Heart


65
45
25
Heart


55
10
45
55
Heart

Exercise 7.

1. The heart pumps the blood by alternately __________ and __________

2. When the heart contracts, it applies pressure to the fluid in it. That fluid is __________.

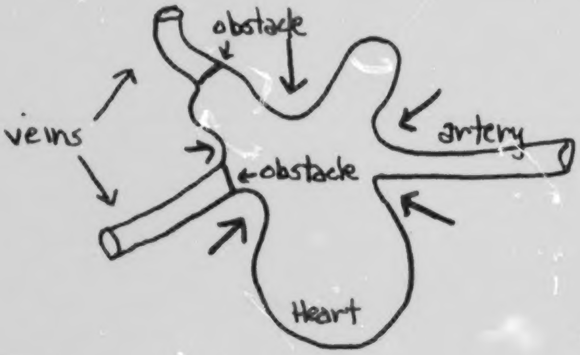
3. Does the volume of fluid get smaller when pressure is applied to it? __________ State the rule that explains this. ______________________________ ____.

4. Pipes carrying blood away from the heart are called __________.

5. The rule about fluids and their movement under pressure states: __________

____

6. Blood in the artery leading away from the heart is under less pressure than blood in the heart when the heart contracts.



The figure shows the heart contracting. Assume for the moment there are obstacles which keep the blood from flowing into the veins. Since the heart is a higher pressure area and the artery is a lower pressure area, blood must flow from the heart into the __________.

The conclusion of this section shows that when the heart contracts, blood is pushed into the arteries. However, after pushing out the blood, the heart relaxes. It is now an area of lower pressure. The artery, now filled with blood, is under higher pressure. The next section will show why blood doesn't back up from the arteries into the heart and why the heart doesn't pump blood into the veins.

VALVES

A VALVE is a one way door that lets the fluid go one way, but not the other way. It is valves that keep blood from backing up into the heart from the arteries. It is also valves that keep blood from being pushed into the veins when the heart contracts.

Here are some valves. The direction of the fluid is indicated by arrows. The position of the valves determines if it will open or close when fluid moves against it.

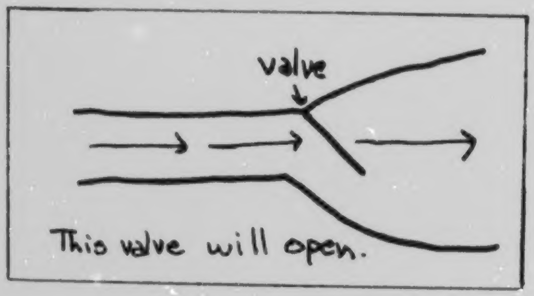

valve
This valve will open.

Figure 11

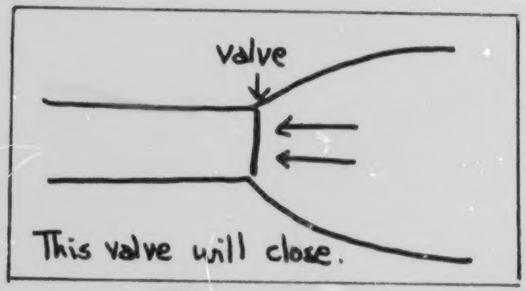
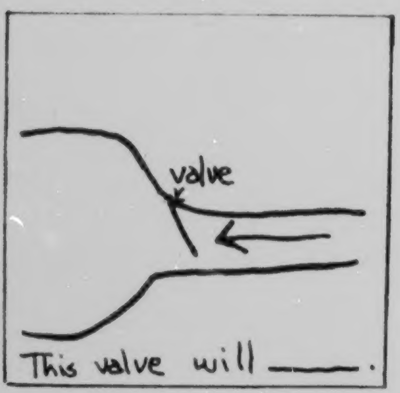
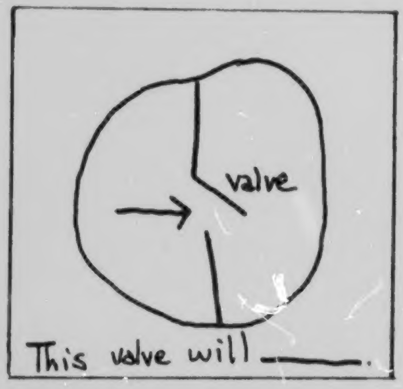

valve
This valve will close.

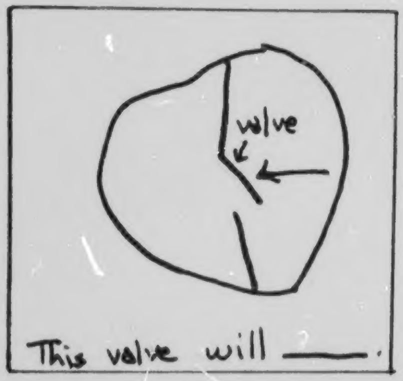
Figure 12

Exercise 8.

Indicate whether the following valves will open or close.


valve
This valve will ____.


valve
This valve will ____.


valve
This valve will ____.

The following examples show what happens when a pump like the heart contracts.

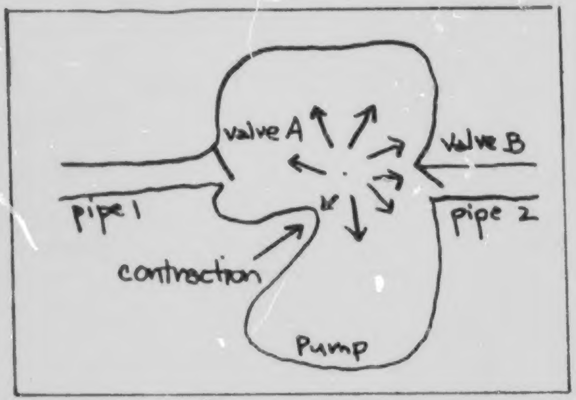


Figure 13

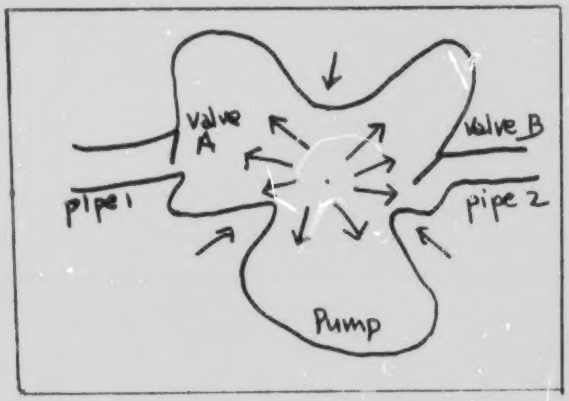
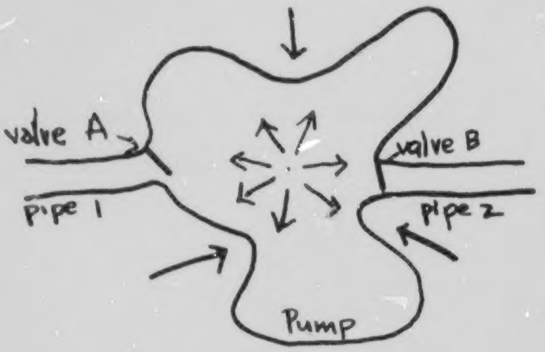


Figure 14

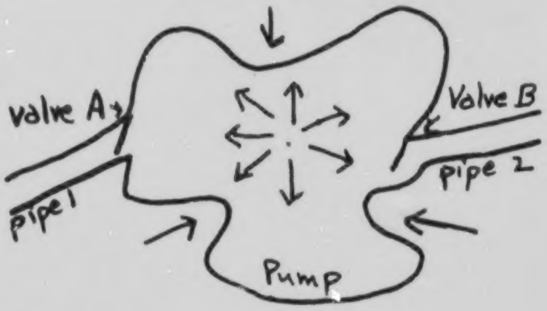
The small arrows show how the fluid would be pushed in all directions. But the valves control which pipe the fluid would be pushed out of. In figure 13, Valve A would close when fluid pushed against it. No fluid would flow out pipe 1. Valve B would open when fluid pushed against it. So the fluid would leave the pump in figure 13 by pipe 2. In figure 14, when the pump contracts, again the fluid is pushed in all directions. Fluid pushing against valve A will cause it to [open, close]. So the fluid can leave the pump in figure 14 through pipe number _____. When the fluid pushes against valve B, it causes the valve to [open, close]. Does any fluid flow out of the pump in figure 14 through pipe 2? ______

Exercise 9.

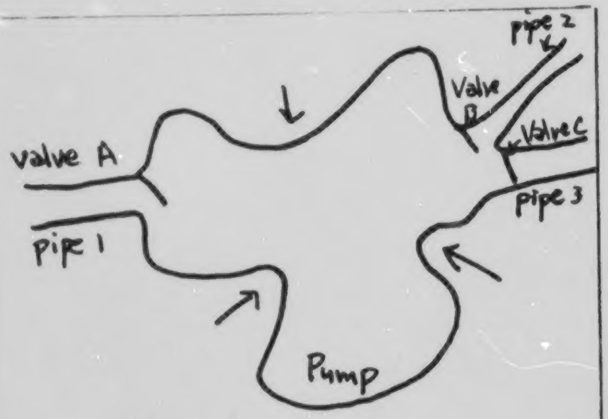
Look at the following pictures of pumps contracting. Indicate which valves would open and which valves would close. Also indicate which pipe the fluid would flow through.


valve A
valve B
pipe 1
pipe 2
Pump

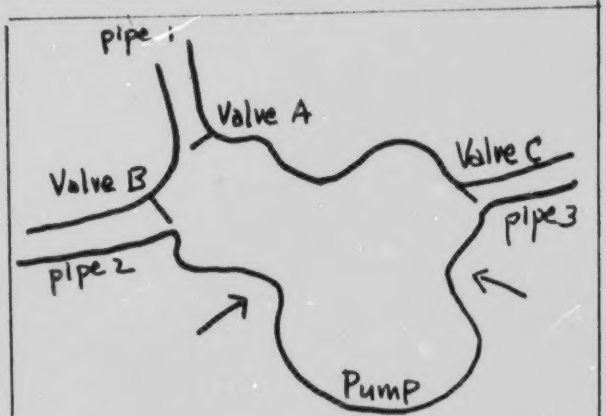
Valve A will ________.
Valve B will ________.
Fluid flows through pipe ___.


valve A
Valve B
pipe 1
pipe 2
Pump

Valve A will ________.
Valve B will ________.
Fluid flows through pipe ___.


pipe 2
Valve B
Valve C
valve A
pipe 1
pipe 3
Pump

Valve A will ________.
Valve B will ________.
Valve C will ________.
Fluid flows through pipes number _____ and _____.


pipe 1
Valve A
Valve B
Valve C
pipe 2
pipe 3
Pump

Valve A will ________.
Valve B will ________.
Valve C will ________.
Fluid flows through pipes number _______ and _______.

Exercise 10.

1. When the heart contracts, it gets [smaller, larger].
2. Pressure is applied to the fluid inside the heart when the heart contracts. The fluid is __________.
3. Does the volume of this fluid get smaller when pressure is applied to it? ________ State the rule that explains your answer. ____________________
____.
4. So the blood will be pushed out of the heart into pipes that carry blood away from the heart. These pipes are __________.
5. When the heart contracts, it applies pressure to the blood inside. The inside of the heart becomes an area of [higher, lower] pressure.
6. The artery leading away from the heart is an area of lower pressure. Does the blood flow from the heart to the artery? ______ State the rule that explains this. ____
____
7. The pipes that carry blood to the heart are called __________. These pipes are also lower pressure areas when the heart contracts. What obstacles or doors keep the blood from being pushed into these pipes (the veins) when the heart contracts? __________
8. The heart pumps by alternately contracting and __________.
9. When the heart relaxes, it applies no pressure to any blood in it. The inside of the heart is an area of lower pressure. The artery carrying blood away from the heart is an area of higher pressure. By the rule about fluid movement and pressure, the blood should flow from the artery (area of higher pressure) back into the heart (area of lower pressure).

What keeps the blood from flowing in this direction? __________

10. When the heart is relaxed, it is an area of [higher, lower] pressure. The vein carrying blood to the heart is an area of higher pressure. Therefore, when the heart relaxes, blood will flow from the __________ (name pipe) to the __________. This is because fluids flow from areas of __________ pressure to areas of __________ pressure.

11. Once in the system, blood flows away from the heart through arteries and returns to the heart in veins. The smallest pipes in the system carry the blood from the arteries to the veins. These pipes are __________.

12. No blood (in a healthy body) leaks out as it goes through the system. This means our circulatory system is [open, closed].

THE PULSE

When the heart contracts, blood is forced into the __________ (name of pipe). The walls of the artery are thick but very flexible. They act like springs. As blood flows into the arteries, the walls stretch or EXPAND from the pressure. But immediately after, the artery walls start to RECOIL or snap back to their original size.

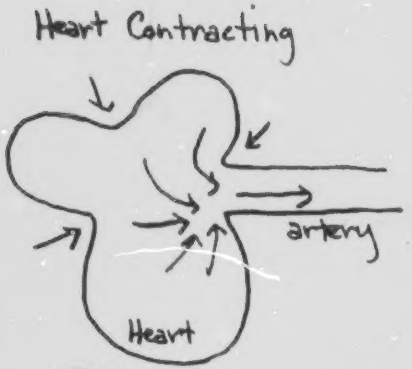

Heart Contracting
artery
Heart

Figure 15

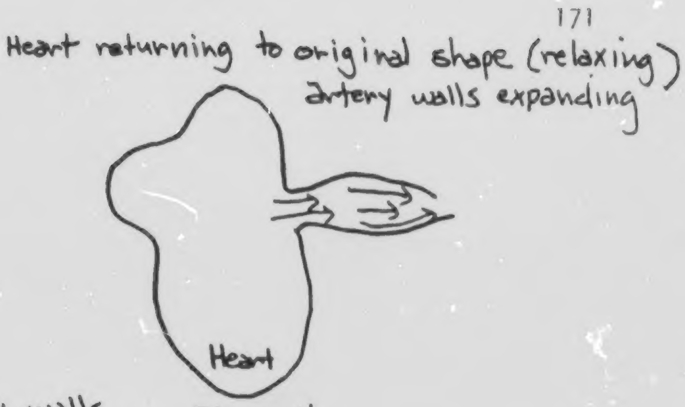

Heart returning to original shape (relaxing)
artery walls expanding
Heart

Figure 16

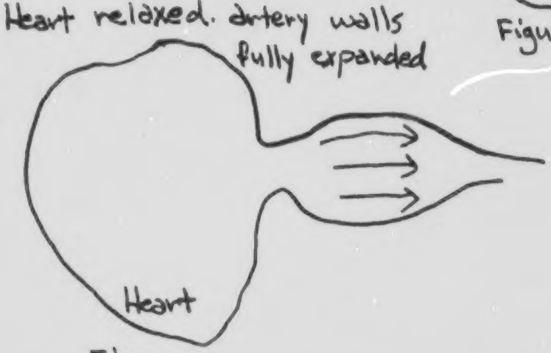

Heart relaxed. artery walls fully expanded
Heart

Figure 17

Figures 15-17 show in a simple way how the contraction of the heart sends a large amount of blood into the artery and forces the artery walls to expand. To get such an amount of blood into the smaller pipe a great deal of pressure is exerted. This pressure travels in a wave form throughout the arteries. (A good example of a pressure wave is the resulting movement when you drop a stone into a quiet pond. The stone hits the water and causes pressure waves to radiate from the point of impact. The familiar rings moving outward from the center are the result of pressure waves.)

As the pressure wave travels through the arteries, it causes the artery walls to expand and recoil. This wave travels rapidly through the arteries. Each time the heart contracts and forces blood into the arteries, a pressure wave is sent racing through the arteries. And because they are flexible, the artery walls expand and recoil as the pressure wave passes through.

Pulse. The expansion and recoil of the artery walls as a wave of pressure moves through the arteries is called the PULSE.

When you "take" someone's pulse, you are feeling the expansion and recoil of the artery walls. At the same time, you are measuring the rate that their heart pumps or beats. This is because the pumping action of the heart - its contraction and relaxation - is almost simultaneous with the expansion and recoil of the artery walls: the pulse.

Remember, also, that the artery walls are flexible. When an artery is filled with blood and the walls start to recoil, pressure is applied to the blood in the artery.

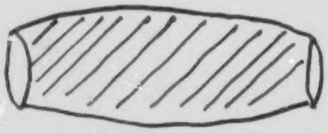


Figure 18

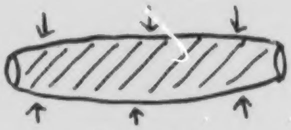


Figure 19

Figure 18 shows the artery expanded and filled with blood. In figure 19 the walls are recoiling and you can see how pressure is exerted on the blood. The pressure pushes the blood along the artery just as the heart pushes blood into the pipes when it contracts. Thus, the artery walls act like tiny hearts or pumps.

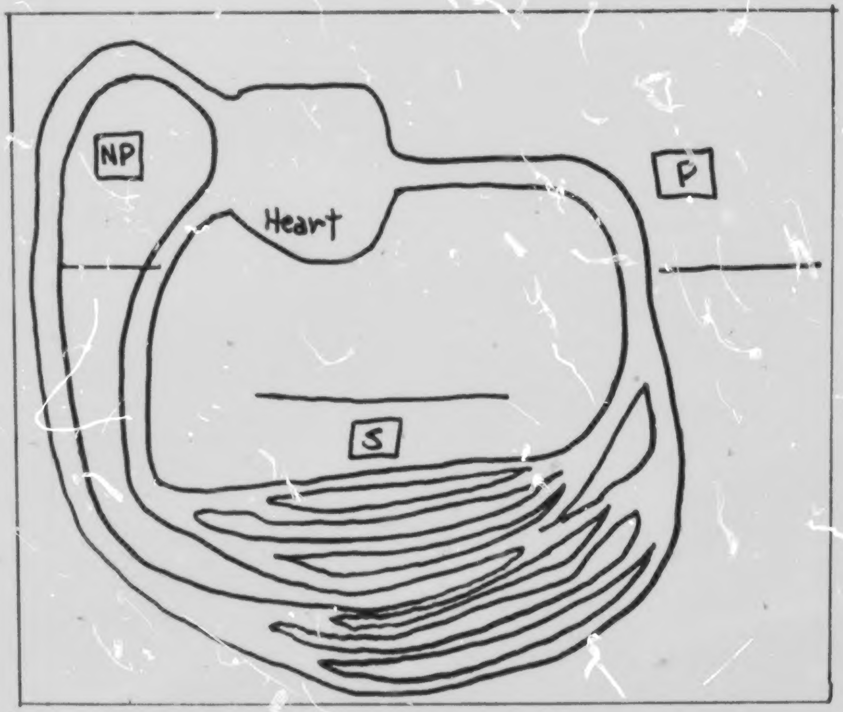
Exercise 11.

1. Blood is pushed into the arteries when the heart [expands, contracts].
2. Artery walls are [flexible, rigid].
3. Artery walls are like springs. They expand and [contract, compress, recoil].

4. Blood under pressure is forced into the arteries when the heart contracts. This volume of blood pushed into the arteries forces the artery walls to __________.
5. The pressure created when the heart contracts travels through the arteries as a pressure __________.
6. The pressure wave causes the artery walls to expand and recoil. This expansion and recoil of the artery walls as a wave of pressure moves through the arteries is called the __________.
7. The heart pumps by alternately __________ and __________.
8. This pumping action is almost simultaneous with the expansion and recoil of the artery walls. So you can say the heart beat (its contraction and relaxation) is immediately followed by a __________ beat (expansion and recoil of the artery walls).
9. When an artery is expanded and filled and then starts to recoil, pressure is applied to the __________ (fluid) inside.
10. The recoil action of the artery walls thus helps to move the blood along the arteries. The artery walls act like tiny [pipes, pumps].

The pressure wave, caused by the heart's forcing blood under pressure into the arteries, does not travel through the entire circulatory system. This wave moves rapidly through the arteries first. But the arteries, which are large as they leave the heart, branch into smaller and smaller pipes. The pressure wave gradually loses strength passing through smaller and smaller pipes. Eventually, the arteries have branched into the smallest pipes which carry the blood over to the veins. These tiny pipes are the __________. The pulse wave loses all of its strength in passing through the capillaries.

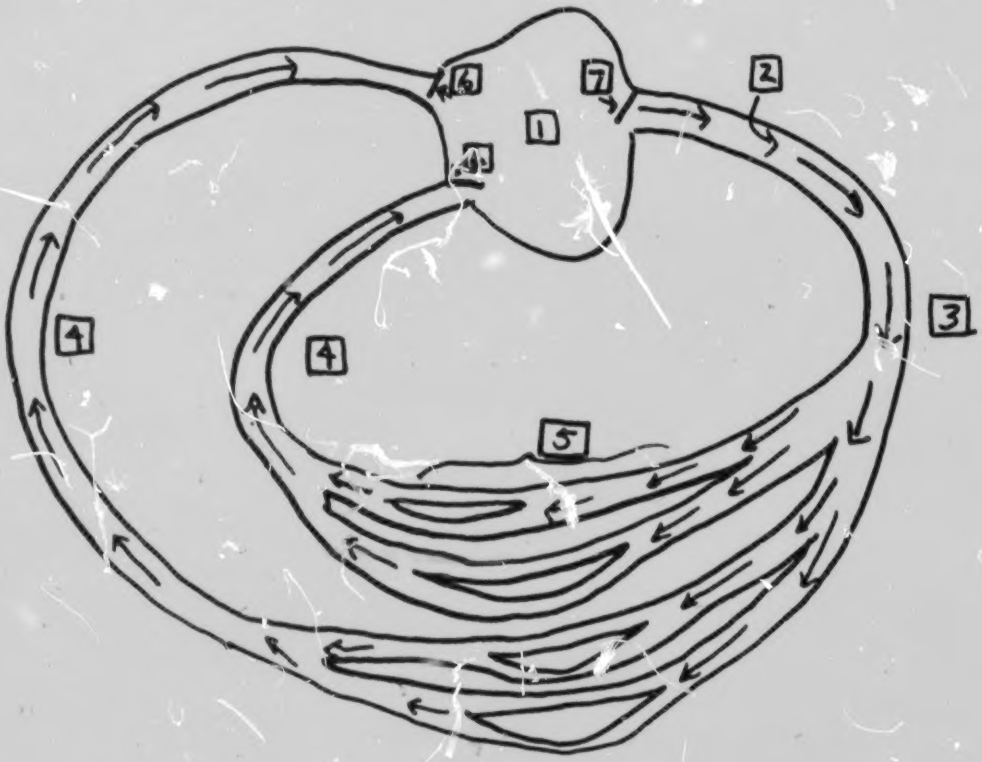
There is no pulse you can feel in the veins. The pipes that pulse are the ___________. The small pipes that suppress the pulse are the ___________. The pipes that do not pulse are the ___________.



In the figure, the boxes next to the pipes have letters that indicate whether the pipe pulses (P), does not pulse (NP) or suppresses the pulse (S). Next to the box, write the name of the pipe. Arrows indicate direction of flow.

Exercise 12.

The questions refer to the numbers in the figure. For example, question number 4 refers to the area marked 4 in the figure, etc. This holds for questions 1-6.



1. This part of the system is the pump called the ___________.
2. The fluid pumped through this system is ___________.
3. This pipe carries the fluid away from the pump. Name it. ___________.
4. Pipes carrying fluid to the pump are _________.
5. These pipes carry fluid from the arteries to the veins. These pipes are ___________. Are these pipes [bigger, smaller] than arteries?
6. These doors control the direction of blood flow. They are called _________.

7. The whole system in the figure is called the __________ system.

8. Normally, this system is [open, closed]. This means blood leaving the heart returns to the heart and [some, none] leaks out.

9. The blood is a fluid. If you apply pressure to a fluid, does its volume get smaller? ______ State the rule that explains this. ________________

____

10. Gases are compressible. In the following list write C next to the word if it is compressible. Write NC if it is not compressible.

a. Orange juice ______

b. Smoke ______

c. Sea water ______

d. Helium ______

e. Blood ______

f. Oxygen ______

11. Figure 20 shows the heart in a relaxed position. Figure 21 shows the heart is __________.

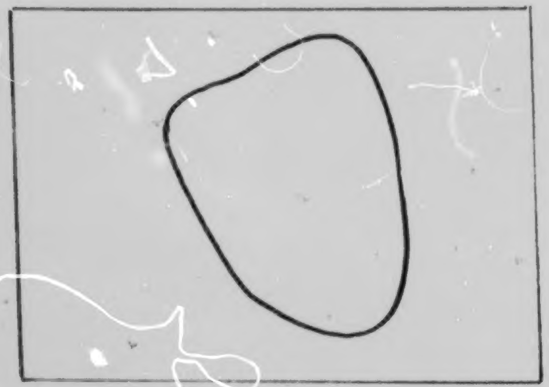


Figure 20

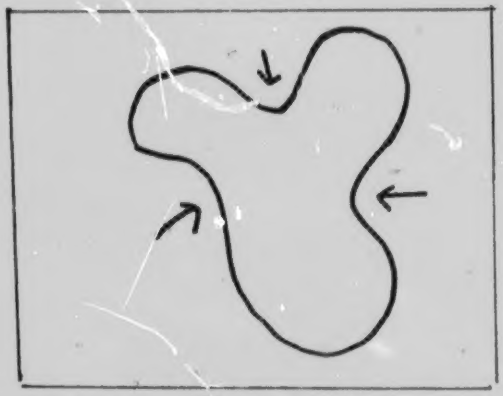


Figure 21

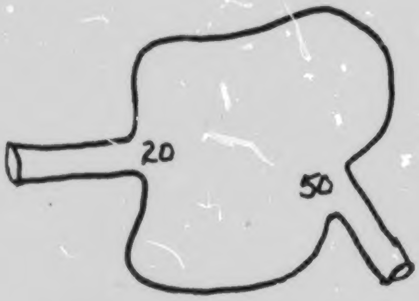
12. An alternation of contracting and relaxing makes up the heart's pumping action. In figure 21, what happens to blood in the heart compared to figure 20? [under less pressure, under same pressure, under greater pressure].

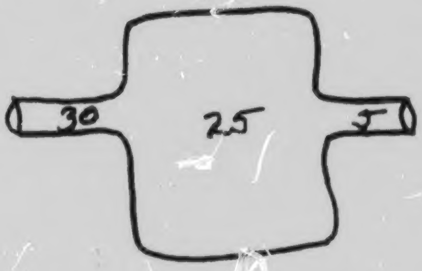
13. Does the blood stay in the heart when the heart contracts? _____ Into what pipes does the blood go? __________ (name pipes).

14. Write the rule about the movement of fluids under pressure. ____________

____

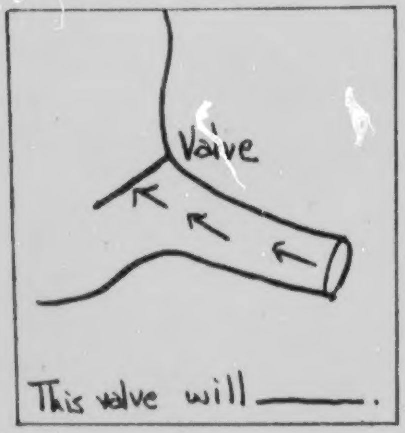
15.



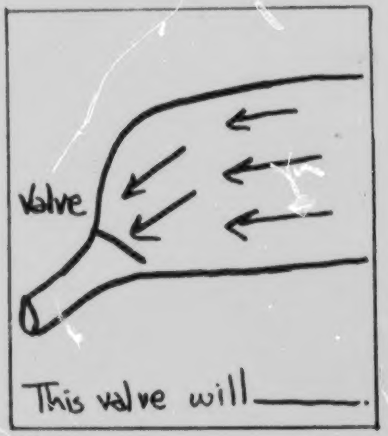


Show with arrows the direction of flow in the above figures. The numbers indicate higher or lower pressure.

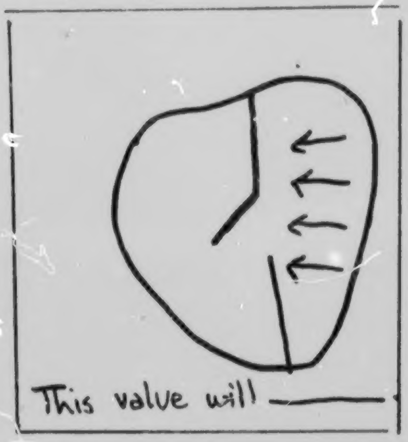
16. Here are some valves. Indicate whether they will open or close depending upon the direction of flow.



This valve will _____.

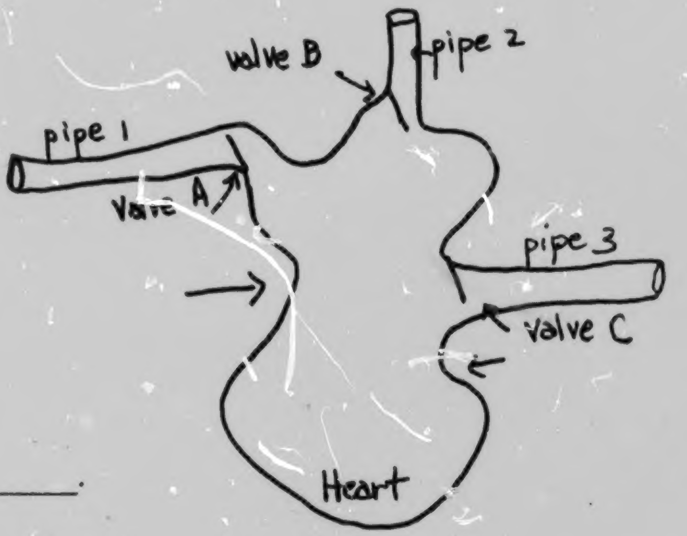


This valve will _____.



This value will _____

17. Here is a pump like the heart contracting. Indicate which valves would open and which valves would close. Also indicate which pipe the fluid would flow through.



Valve A would ____________.

Valve B would ____________.

Valve C would ____________.

Fluid flows through pipes number ______ and ______.

18. Pressure in the arteries is much higher than pressure in the veins in the normal human body. So by the rule about the movement of fluids under pressure, blood in the human body flows from the ____________ (name pipe) to the ____________ (Name pipe).

19. The walls of arteries are [flexible, rigid].

20. When the heart contracts, blood is pushed into the ____________ (name pipe). The blood is under pressure. The pressure travels through the arteries in the form of a [stream, wave].

21. Because artery walls are "springy", after expanding because of the pressure applied to them, they immediately start to [contract, bend, recoil].

22. Define the pulse. ____

____

____

23. The heart beat is one contraction and __________ of the heart. The pulse beat is one expansion and __________ of the artery walls. The two occur almost simultaneously. So measuring the pulse rate is like measuring the __________ rate. Do arteries pulse? _____ Do veins pulse? _______ Name the pipes that suppress the pulse. ____________

APPENDIX 3-1

Personalization Pinpoints

General Category 1: Makes Patient Feel Important

Visit without being asked
Use patient's name
Ask for preferred name
Offer services without being asked
Touch patient to communicate concern and caring
Notice changes in appearance (make-up on)
Refer to previous conversations
Ask preferences when options exist
Waves and smiles greetings
Do errands (writes letters, mails letters, get magazines)
Talk to patient
Listen to patient
Get patient to talk about himself
Speak to and make friendly remarks when doing tasks
Keep promises (to call doctor, to call family, to return)
Praise accomplishments
Make follow-up phone call to patient's home
Share patient troubles, listen to concerns
Deliver phone message to and from patient
Remember patient needs
Spend extra time with patient to talk, to play cards
Answer light promptly
Do treatments on time or else explain reason for delay
Make extra bed changes (for diaphoresis) cheerfully
Disregard financial situation as a criterion for giving good care
Show interest in patient and family (comments about pictures, etc.)
Find out about special interests of patient
Apologize when unkind or short
Tell patient vital signs if he asks (rather than insult intelligence by withholding)
Speak kindly
Let patient feel less helpless (allow patient to help with own care)
Recognize that dirt does not necessarily mean poverty
Allow patient and family to participate in decisions regarding costly tests or treatments
Check out with patient on financial matters, rather than assume
Verbalize that she understands problems, feelings
Listen to patient complaints
Direct entire attention to patient when with him
Is physically present often
Interfere on patient behalf when doctors or others would disturb unnecessarily to do excessive examinations
Minimize waiting time (in office)
Retire if nursing becomes a job

General Category 2: Provides Individualized Care

Talk when patient wants to talk, is quiet when patient doesn't want to talk
Respond to idiosyncracies - gives hot water to drink, gets another nurse to care for patient, gives coffee at bedtime

Perform routine care on a flexible time schedule
Learn patient preferences and acts in light of them
Ask patient what he wants
Find out what patients know before offering explanation
Find out about previous hospitalization if any
Provide private room if needed and possible to do
Provide juices at different hours
Allow family to participate in care if comforting
Include patient in planning care
Consider importance of family and include as source of information about patient
Visit early in shift and ask patient about his needs
Let patient walk when they can (be more independent)
Assign rooms according to needs of patients
Give choice of wakeup time - allow to sleep later, provide later breakfast, do blood tests later in day
Ask patient about what he likes to eat
Ask patient how he feels about care
Ask patient if prescription helps
Ask patient if he wants follow-up services
Limit visitors if patient doesn't feel well
Bring extra cup of coffee
Work to find solution to problems rather than avoid
Creative in choice of fluids, e.g., substitute ice chips for water for fluid allowance
Assign same nurse to patient when possible for security and comfort
Participate with patient during labor
Volunteer help for sleeplessness
Include parent when dealing with child
Get down to child's level
Place articles within reach of patient
Check for right or left handedness when arm casted
Relate personal experiences if would put patient at east
Offers sympathy but not too much
Changes response to patient according to patient's emotional or physical state
Acknowledges depression - doesn't ignore
Reorients the confused as often as patient seems to require
Reassure often that you are present and available
Anticipates fears that patient may have for unknown or unusual

General Category 3: Works Safely

Checks orders carefully
Checks identification rigidly
Ensures patient will not be alone in delivery room
Pays attention to food restrictions, allergies
Observes patient several times at night
Charts pertinent facts
Protects from hot liquids if sleepy, aged, child
Teach safety factors to patients

General Category 4: Gives Physical Care

Gives warm bath
Gives warm enema
Gives gentle enema
Offers a drink
Handles patient gently
Helps patient cough and do lung exercises
Holds pillow on abdomen to ease pain
Requires patient to do activities necessary for healing
Uses enough help to lift a heavy person
Recognizes that some people "hurt" easily and need gentler handling
Takes time with enema
Inserts needle quickly, holds steady during injection
Monitors V.S.
Checks I.V.'s, adjusts
Checks dressings
Checks drainage tubes
Does physical care on time, quickly (though not rushed)
Acts confident when performing treatments
Assists to change position
Volunteers help
Attends to detail in routine or special care
Serves meals promptly
Assists to eat if necessary
Checks during meal on eating (especially if child)
Prepares for meal
Get warm food if tray gets cold
Gives medicine on time
Change bed
Transports patient gently
Washes hair when dirty
Treats rashes
Treats sore hemorrhoids
Treats sore backs
Anticipates patient pain
Offers pain medication
Adjusts pillows
Gives back rubs
Washes face often (in ICU)

General Category 5: Teaches

Exercises for home care, help practice
How to breathe in labor
How to breast feed
How to position baby for comfort during feeding
Safety factors (not to walk on floors in bare feet)
Nutrition
Family how to deal with problems at home
Specific procedures and skills for home use

Demonstrates skill to be learned
Allows patient to practice new skill
Responds to patient need to feel comfortable about learning a strange skill
Teaches responsibility associated with birth control, not just techniques
Teaches new mother about baby - how noises affect him
Gives instructions kindly
Teaches self care for some things in hospital
Ascertain what needs to be taught before teaching
Teaches IPPB

General Category 6: Is Adaptable

Has possible solution in mind when unusual situation arises
Copes with patients' emotions
Offers distractions from problems for child; a) plays games with child; b) reads books; c) uses T.V.; d) gives treats

General Category 7: Explains

Answers questions thoroughly and directly
Considers all questions seriously
Admits ignorance
Replies honestly to questions
Replies when unable to give complete answer with response other than "You will have to ask your doctor" or "I can't tell you that"
Interprets vital signs and test results
Tell what to expect when undergoing diagnosis or prescription procedure
Gives as much detail as possible about roommate who "goes bad"
Explains unusual or emergency situations occurring to other patients on ward if asked
Explains unusual equipment
Explains why unable to give more paid medication
Explains hospital routines, equipment, call light, meal times
Takes time to explain things to patient
Explains reasons for all prescriptions
Gives preventive explanation
Explains reason for rushed interaction
Informs family of changes in condition
Makes explanation as often as necessary (time of day)
Explains why unable to wash hair (or do anything)
Checks for knowledge, understanding before giving explanation
Explains side effects (blood transfusions)
Explains possible changes in life style
Gives information about community agency help which may be needed or wanted
Relates to patient limits of nurses practice
Explains nurses role in explanation of test results
Explains why pain occurs
Explains loss of appetite
Explain need for walking despite pain
Gi[illegible] suggestions for possible solution to problems

General Category 8: Has Pleasant Appearance (Mannerisms)

Dresses neatly
Uses makeup sparingly
Uses perfume sparingly
Smells clean
Keeps long hair up
Looks happy
Smiles
Practices good hygiene
Looks rested, relaxed
Has good posture (stands straight, walks tall)
Wears clean uniform
Shows sense of humor - Shares funny happenings, laughs, listens to patients' jokes, laughs at self, uses humor appropriately, teases patient if appropriate
Responds in pleasant manner, not flippant
Avoids showing dislike or boredom

General Category 9: Respects Privacy and Modesty of Patient

Assigns male to male bath if patient unusually sensitive
Leaves when patient washes dentures
Pulls curtains before giving treatment or exam
Knocks on door before entering
Exposes only necessary parts for treatment
Leaves room when patient uses bedpan or toilet
Leaves alone when family present
Keeps opinion of patient's affairs to herself
Discusses case only with medical persons involved
Uses quiet voice during personal discussions
Closes door during care
Respect patient's right to be silent about private life

General Category 10: Gives Support to Grieving and Terminally Ill

Allows family of deceased to be with body
Greet relatives of deceased with dignity
Prepares for grieving family members - don't act shocked
Voices sorrow
Acts calm and quiet with grieving
Teaches families of dying what the dying need
Obtains additional education or skill for work with dying if needed
Approaches rather than avoids terminal patient

General Category 11: Relays Information

Delivers phone messages from family to patient
Communicates with other shifts concerning changes in care and special needs so patient does not have to repeat
Verbalizes patient concerns to administrators
Gives as much information to relatives as possible when they inquire

Lets patient know if he is doing right thing
Informs family of changes in condition (especially when worse)
Provides clock for patient to see in ICU
Informs doctor of patient concerns
Tell child when parent will return
Gives progress report to patient and family
Reports back on call to doctor or when asked to find out something

General Category 12: Interprets and Enforces Hospital Policy

Lets visitors stay longer
Lets children visit parents sometimes
States and responds to intent of policy rather than policy itself
Initiate change in policy if archaic
Allows late hour T.V. if not disturbing to others
Uses common sense with red tape

APPENDIX 4-1

Aide Performance Criteria

Aide Performance Criteria

At the completion of the A.D. first level (aide certification) the student can:

A. In consultation with an L.P.N. or R.N., identify, plan and give personalized care for patients of all ages related to the following basic needs: 1) mobility; 2) fluid; 3) nutrition; 4) elimination; and 5) hygiene and grooming in ways that include comfort and safety.

B. Obtains data necessary to plan care and provide environmental safety.
  1. Assessment
    a. Communication
      1) Obtain patient/ and/or family's stated information related to signs, symptoms, physical needs and personal concerns.
      2) Refers information obtained to immediate supervisor.
    b. Observation
      1) Discern objective, descriptive data related to the patient's basic needs.
      2) Detect changes from primary status over time in relation to the following areas:
        a) Take, report, and record vital signs:
          (1) blood pressure
          (2) temperature
            (a) oral
            (b) rectal
            (c) axillary
          (3) Pulse
            (a) radial
            (b) carotid
            (c) temporal
            (d) apical
            (e) popiteal
            (f) femoral
            (g) post tibial
            (h) pedal
        b) Checks and reports changes in levels of consciousness
        c) Examine dressings and report drainage as to:
          (1) amounts
          (2) mal odors
          (3) color
        d) Reports signs or expressions of pain, nausea, hiccoughs, diaphoresis
        e) Reports changes in skin as to:
          (1) color
          (2) eruptions
          (3) breaks
    c. Consultation
      1) Consult Kardex and supervisor to determine requirements, restrictions and limitations prior to any intervention
      2) Utilize procedure book, hospital manuals, and other references relevant to nursing care in new or uncommon situations

2. Plan
    a. Identify patient problems related to their basic needs
    b. Relate specific orders to identified problem
    c. Identify the specific nurse actions that he/she can perform in relation to each identified basic need problem
3. Intervention: The Aide can perform the following skills in ways that incorporate safety, comfort, personalization, teaching (see explanation), and efficiency.
    a. Environmental safety
        1) Use basic aseptic techniques to prevent conveying or transfer of microorganisms between self and other persons, including patients in isolation, by correct:
            a) handwashing
            b) handling of clean and dirty items
            c) disposal of wastes
        2) Use correct body mechanics in all movements in providing patient care
        3) Use correct body mechanics and safety devices while transferring patient:
            a) to and from bed
            b) into and out of wheelchair
            c) on to and off stretchers
            d) to ambulate
        4) Place and keep patient in correct body alignment
        5) Keep immediate environment free of hazards including proper use of side rails and height of bed
        6) Interpret and respond to fire regulations and know method of reporting
        7) Adjust sensory stimuli as to light, noise, temperature, ventilation, odors and color to patient's expressed comfort
        8) Place call device within patient reach
        9) Apply and maintain the following soft restraints when ordered:
            a) clove hitch to wrist/ankle
            b) jacket
            c) waist
            d) mummy
    b. Mobility: Provide or use each of the following when appropriate:
        1) Range of Motion
        2) Turn sheet
        3) Log roll
        4) Foot boards
        5) Bed boards
        6) Cradles
        7) Tronchanter rolls
        8) Help patient move up in bed
        9) Assist patient from bed to chair
        10) Assist patient to walk
            a) without helping devices
            b) with helping devices
                (1) walker
                (2) cane
                (3) crutch

   11) Arm slings
   12) Apply braces
   13) Wrap and apply buck's traction
   14) Care for patient in traction
   15) Care of patient in casts
   16) Remove and apply Ted Socs
c. Hygiene and Grooming
   1) Bath - provide any of the following types:
      a) complete
      b) partial
      c) tub
      d) shower
      e) Sitz
   2) Perineal care
   3) Skin care by providing:
      a) back rubs
      b) sheepskins
      c) heel and elbow protectors
      d) alternating pressure mattress
      e) position changes
   4) Oral hygiene according to need including:
      a) self-help
      b) conscious but helpless
      c) unconscious
      d) care of dentures
   5) Nails (trim and file)
   6) Hair - Assist or perform:
      a) comb/brush
      b) shampoo
      c) shave
   7) Apparel - dress or assist with garments
   8) Bed-making - make any of the following types:
      a) occupied
      b) unoccupied
      c) anesthetic
      d) adapt to added equipment
d. Fluids
   1) check and follow fluid requirements as ordered
   2) calculate and record fluid intake
   3) provide fresh drinking water and options (if allowed)
   4) observe and report I.V. function
   5) discontinue I.V.'s
e. Nutrition
   1) check for current diet status
   2) serve correct food to patient
   3) identify foods that are appropriate for the following diets:
      a) clear liquid
      b) full liquid
      c) soft
      d) mechanical soft
      e) bland
      f) sodium restricted

        4) Have diabetic diet checked before and after patient has eaten
        5) Assess patient's abilities and positions then assists and/or feeds accordingly
        6) Provides in-between meal nourishments
    f. Elimination
        1) Place patients on bedpans, fix pans, commodes
        2) Offer and/or place urinals
        3) Report and record characteristics and amount of urine and feces
        4) Perform catheter care
        5) Collect, label, and send the following type of specimens to the lab:
            a) urine
            b) feces
            c) sputum
        6) Give enemas
            a) cleansing
            b) return-flow
            c) retention
        7) Insert glycerine suppository
        8) Monitor urinary output in drainage bags
        9) Empty drainage bags as ordered maintaining asepsis
        10) Collect "clean-catch" urine specimen
        11) Test urine and/or feces using
            a) clinitest
            b) testape
            c) acetone
            d) ketostix
            e) guaiac
    g. Activities related to therapy
        1) Binders
            a) apply scultetus
            b) apply abdominal
            c) apply T
        2) Thermal
            a) fill and apply ice bags
            b) apply and maintain k-pads
            c) apply unsterile hot wet packs
            d) heat lamp
        3) Tubes
            a) keep in place
            b) position for optimum flow
            c) report malfunctions
            d) report changes in drainage characteristics
        4) Aeration
            a) maintain water level in humidifier
            b) maintain flow rate of O_2 as ordered
            c) post warning signs
            d) check for and remove fire hazards
    h. Teaches
        1) Give information of basic hospital routine

APPENDIX 4-2

L.P.N. Performance Criteria

L.P.N. Performance Criteria

At the completion of the second level of the nursing ladder program the student can:

A. Take the examination for practical nurse licensure.

B. Provide health care for persons of all ages in relation to their needs based on Maslow's hierarchy.

C. Independently plan and provide care for patients whose health status is stable.

D. Under direct supererervision of an R.N. or M.D., can plan and provide care for patients whose health status is unstable.

E. In addition to those competencies identified at completion of the first level, the student can assess, plan, and intervene in ways that include safety, comfort, and personalization, as follows:
    1. Assessment
        a. Communication - Uses the following skills effectively to obtain and validate information, perceptions, verbal and non-verbal cues.
            1) open-ended statements
            2) paraphrase
            3) reflection
            4) silence
            5) summarize
        b. Observation: Interprets data based upon relevant physiological and/or psycho-social facts
        c. Consultation
            1) Consult Kardex and chart to determine requirements, restrictions and limitations
            2) Exercises judgment when to solicit assistance from appropriate persons in planning interventions
    2. Plan
        a. Identify patient problems in relation to physical, mental or emotional needs
        b. Prioritize problems in order of nursing care needs
        c. Identify the specific nurse actions that he or she can perform in relation to each identified problem
        d. Make revisions based on on-going patient assessment
    3. Interventions
        a. Environmental Safety
            1) Uses correct surgical aseptic techniques to perform sterile procedures
            2) Determine needs and alternatives based on current assessment
        b. Mobility
            1) Teaches crutch walking
            2) Teaches patient activities based on individual needs and limitations

c. Hygiene and Grooming
    1) Skin Care - determine and apply protective measures based on current assessment
d. Fluids
    1) recognize signs of abnormal hydration
    2) initiate ways to meet patient fluid needs
    3) regulate and maintain I.V.'s drop rates
e. Nutrition
    1) teach patient dietary needs within their limitations
    2) help patient adapt dietary requirements to their pattern of living
    3) give tube feedings
f. Elimination (also see g 3 - Tubes and Related Activities)
    1) perform catherizations
    2) insert medicated suppositories
    3) determine need and recommend method for alleviating bladder and bowel irregularities
    4) test for pin-worm
    5) give and teach ostomy care
    6) collect sterile specimens
g. Therapy
    1. Binders - Breast
    2. Thermal
        a) Apply sterile wet packs
        b) Maintain patient on thermal blankets
        c) Determine and recommend ways to alleviate body temperature irregularities
    3. Tubes and Related Activities
        a) insert naso-gastric tubes
        b) irrigate tubes to maintain patency when ordered
        c) advance Miller-Abbott tubes
        d) "milk" tubes as needed to maintain patency
        e) empty and maintain drainage receptacle
    4. Aeration
        a) Teaches correct breathing and/or cough techniques to:
            1) emphysema patient
            2) immobilized patient
            3) post-operative patient
        b) suction oral, nasal-oral, and tracheostomies
        c) perform tracheotomy care
        d) administer and teach patient participation in Intermittent Positive Pressure Breathing therapy
        e) set up and maintain
            1) ultrasonic mist
            2) crouptents
            3) cold-mist machines
        f) start and maintain O_2 therapy by:
            1) cannula
            2) nasal catheter
            3) mask
            4) tent

        - g) positions and assists by clapping technique for postural drainage
        - h) ensures humidification of all respiratory therapies
        - i) teach patient and family related precautions
    - 5. Medications
        - a) Administer medications according to the five rights of medicine giving: correct medication, dosage, time, patient, route and/or site
        - b) Assess need to give or withhold medication
        - c) Locate 4 common intramuscular sites and landmarks for each: Ventro-gluteus, gluteal maximus, vastus lateralis, deltoids.
        - d) Administer medication using the following kinds or techniques: intradermal, subcutaneous, insulin, Z tract, eye, ear, nose, rectal, topical and narcotics.
        - e) Record medication, time of administration, route and/or site and effects
        - f) Watches for and recognizes drug side-effects.
- h. Teaches
    - 1. Explain diagnostic and therapeutic procedures
    - 2. Teach pre-operatively those events and activities which will occur post-operatively
    - 3. Suggest referral of patient and/or family to other disciplienes or helping agencies through the appropriate person(s)
    - 4. Teaches health maintenance and illness prevention in relation to:
        - a) physical care
        - b) diet, either:
            - 1) normal
            - 2) altered

APPENDIX 4-3

Samples of Course Syllabus Pages in the Write-Say-Do Format

Nursing Concept	Write	Say	Do	# errors allowed	accepted frequency	Setting
	One major contribution to the body and its solubility type for any 2 of the following vitamins: (S. L.) 1. A 2. C 3. D 4. E 5. K 6. thiamin 7. Riboflavin 8. Niocin					
Observation Measurement	68. The correct response to any one of the following: (S. L.) 1. the meaning of accuracy 2. 3 specific behaviors necessary to ensure accuracy in measuring a liquid.			68. 0	X1 1 min.	Lab.
Fluid Balance	3. The meaning of fluid balence in man.					
Intake and Output	4. The sourses of fluid intake and the avenues of fluid loss for persons in healthy states 5. A minimum of 2 ways used to administer fluids to persons other than by mouth and a minimum of 4 ways of abnormal fluid loss.					

Nursing Concept	Write	Say	Do	# errors allowed	accepta[illegible] frequency	setting
	69. A (X) to indicate those foods that qualify as a liquid on a given list of 20 foods.			69. 0	X1 30 sec.	Lab
			70. Accurately, convert 36 food intake amounts on a given list to milliliters, record each conversion in the space provided and total the second page of conversions.	70. 0	X1 7 mins.	Lab
Measurement Intake and Output			71. Accurately read the fluid levels in the following containers and record the amounts on paper for: 12 graduated containers 4 urine drainage bags 2 I. V. bottles as to Amount in patient Amount in bottle.	71. 0	X1 3 min.	Lab
	72. 13 given daily I & O measurements in the correct column as to time and place and total for the 24 hour I & O on a given form.			72. 0	X1 2 min.	Lab
Vital Signs	73. The correct response to any one of the following: (S. L.) 1. An explanation of how and why the vital signs are interrelated.			73. 0	X1 1 min.	La

Nursing Concept	Write	Say	Do	# errors allowed	accepted frequency	setting
	2. The meaning of Normal range. 3. A minimum total of 7 internal and external factors that are known to increase vital sign rates. 4. A minimum total of 7 internal and external factors that are known to decrease vital sign rates.					
Blood Pressure	74. The correct response to any one of the following: (S. L.) 1. The name of the 3 component forces of a blood pressure measurement and state what information is indicated by each of the forces. 2. The 3 major factors that determine the pressure of the blood in the circulatory system and state how each factor influences the pressure. 3. A minimum of 12 factors that are essential to assess when measuring a blood pressure to ensure the validity of the reading.			74. 0	X1 4 min.	

Nursing Concept	Write	Say	Do	# errors allowed	accepted frequency	setting
		(#45 continued) 4. A factor contributing to normal bowel habits. (6)		47.	30 sec	class 1/21
				48.	2 min.	lab
Constipation Fecal Impaction Diarrhea Flatulence Anal incontinence	48. Nurse acts to care for a patient who has one of the following problems of fecal elimination: 1. constipation (6) 2. fecal impaction (3) 3. diarrhea (6) 4. flatulence (3) 5. anal incontinence (4)	47. If asked, one of the following: 1. A cause of constipation (6) 2. A symptom of constipation (6) 3. A danger to the patient of continued constipation (1) 4. A symptom of diarrhea (4) 5. A cause of diarrhea (6) 6. A danger to the patient of continued diarrhea (1) 7. A cause of flatulence (4) 8. Symptoms of flatulence (4) 9. A cause of anal incontinence (4) 10. A therapeutic effect possible by enema methods (6)		If write: 47. #1,2 #3,6 #4,5 #7,10	 2 min. 30 sec 3 min. 2 min.	 lab each each each each

Nursing Concept	Write	Say	Do	# errors allowed	accepted frequency	setting
Immobility	83.(A) 1. The body site(s) affected. 2. The physical or physiological changes that occur. 3. The nursing actions necessary to prevent occurance of the condition. 4. The consequences to the patient if the condition does develop. For any one (L.S.) of the following conditions as a result of immobility: 1. Muscular atrophy 2. Contractures 3. Osteoporosis 4. Hypostatic pneumonia 5. Atelectasis 6. Postural hypotension 7. Increased heart work load 8. Valsalva maneuver 9. Dependent edema 10. Thromboembolism 11. Dependent edema 12. Negative Nitrogen Balence 13. Anorexia 14. Constipation 15. Urinary retention 16. Renal stones 17. Ischemia 18. Decubtus ulcers 19. Sensory restriction(s).		84. Plan, initiate and/or emplement any of the following actions that are appropriate to each patient to reduce or prevent the hazards of immobility when caring for confined persons of any age to include teaching the patient to perform or participate in each activity as he is able and is allowable for his/her condition:	83 (A)0	1/5min (L.S.)	Class
				83 (B)0	3 responses	hand in
				84. 0	minimum X4 pts	clinical
			85. Maintain the patients allowable amount of activity including range of motion of all joints.	85. 0	min. X1 pt.	clinical
			86. Maintain the patient in functional positions of correct alignment that allows for maximum ventilation and is comfortable (pt. stated if conscious and able)	86. 0	min. X2 pts	clinical

Nursing Concept	Write	Say	Do	# errors allowed	accepted frequency	setting
Pain	116. (L.S.) The correct response to any one of the following: 1. A minimum of 6 measurable and/or observable responses to pain. 2. The 3 components of pain and describe the function or events that occurs in each component. 3. The four types of pain and give an example of each. 4. 4 factors that may influence a persons perception of pain. 5. 3 factors that may raise a persons pain threshold. 6. 3 factors that may lower a persons pain threshold.			116. 0	1/2 min.	class
			117. Assesses both the patients descriptive and objective data to plan pain intervention.	117.	min. X4 pts	clinical
			118. Interenes appropriately to alleviate patients pain in one of the following ways:	118.	min. X1 for each	
			1. Offers pain medications (when avialable)	1.	X1	clinical
			2. Uses comfort measures as a supplement for or enforcer of pain medication.	2.	X1	clinical
			3. Uses diversional actions when situation warrents.	3.	X1	clini-
			119. Plans and implements nursing actions for patients to obtain optimal effect from pain medications.	119.	min. X3 pt.	clinical
		120. When asked, the time that the patient received his most recent pain medication and/or the medication that is ordered for the patient.		120.	when asked	clinical

APPENDIX 4-4

Critical Elements
by
Nursing Care Area

AREA	CRITICAL ELEMENT
MOBILITY: The partial or complete assistance with movement which may include positioning, exercise, transfer activities, and ambulation. The patient may be in or out of bed, may or may not require supportive devices, but must require the nurse's assistance.	1. When patient needs to be moved or positioned: a. Supports the weak or injured parts of the body b. Supports the patient's head, shoulders and pelvis c. Turns, lifts or moves the patient to a different position d. Uses body parts or external devices to keep the patient in the desired position 2. When the patient needs passive exercise: a. Moves joint(s) through range of motion b. Supports weight of the extremity at joints 3. When patient needs assistance with transfer or ambulation: a. Stabilizes equipment b. Uses measures to maintain balance 4. When patient needs supportive devices: a. Applies binders, ace bandage or stockings correctly b. Applies to correct body part

AREA	CRITICAL ELEMENT
HYGIENE AND GROOMING: The partial or complete assistance with bath, care of skin, mouth, hair and nails including linen change.	1. Provides privacy to include minimum body exposure 2. Prevents chilling 3. Stimulates area around pressure points 4. Maintains asepsis (refer to override concept) 5. Insures cleanliness of all skin surfaces 6. Insures all skin surfaces are rinsed and dry 7. Changes water to maintain: a. soap free b. appropriate temp 8. Supports joints and maintains correct body alignment 9. Accomplishes stimulation and relaxation with back rub when appropriate 10. Lubricates dry skin areas 11. Changes linen to insure clean, dry smooth surfaces 12. Uses position and/or devices to reduce pressure 13. Makes bed to provide freedom of movement 14. Incorporates range of motion 15. Provide equipment for oral self care or, 16. Assist when necessary to ensure clean mouth - injury to tissues 17. Applies moisturizers to lips and soft tissue 18. Safeguards prosthetics 19. Combs/brushes or provide for hair care - minimum discomfort 20. Provide shampoo if necessary 21. Inspects nails for needed care 22. Cuts, trims and files nails with permission 23. Provide equipment for shaving or assist without discomfort

AREA	CRITICAL ELEMENT
FLUIDS: The administration, measurement and recording of fluid intake orally and/or parenterally	101 Challengers: 1. Checks for and follows fluid requirements 2. Calculate and record fluid intake 3. Provide fresh drinking water and options if allowed 102/116 Challengers: 4. Observe and report I.V. function 5. Maintain I.V.'s in place and at prescribed rate of flow 6. Checks site of I.V. needle for infiltration, or tissue sensitivity every 30 minutes, at a minimum
NUTRITION: The administration, measurement and recording of oral food intake	1. Check for current diet status 2. Serve correct food to patient 3. Identify foods that are appropriate for the following diets: a. clear liquid b. full liquid c. soft d. mech. soft e. bland f. sodium restricted 4. Have diabetic diet checked before and after patient has eaten 5. Assess patient's abilities and positions, then assists and/or feeds accordingly 6. Provides in-between meal nourishments

AREA	CRITICAL ELEMENT
ELIMINATION: Provides means for elimination processes and measures and reports outputs.	1st Term 1. Provides privacy, comfort and support in placing patients on bedpans, commodes, urinals and emesis basin. 2. Reports amounts and characteristics of feces, urine and emesis. 3. Monitor urinary output in drainage bags. 2nd Term 1. Perform catheter care according to hospital policy and without violation of asepsis. 2. Correctly labels and sends the following types of specimens to the lab promptly: a. urine b. feces c. sputum 3. Aseptically collects clean catch urine specimen. 4. In administering enemas they will: 4.1 Secure correct solution 4.2 Determines appropriate temperature of solution 4.3 Position patient to facilitate flow 4.4 Instills solution into correct area 4.5 Controls flow (rate and volume) of solution 4.6 Provides receptacle for return flow 4.7 Method of administration appropriate to purpose 5. When inserting glycerine suppository: 5.1 Position patient correctly 5.2 Lubricates appropriate end of suppository 6. Empty drainage bags as ordered maintaining asepsis. 7. Uses urine and feces testing material correctly. 8. When necessary analyzes specimen correctly.

AREA	CRITICAL ELEMENT
OBSERVATIONS: Objective patient data obtained with or without an instrument in use of any or all of the senses.	1. Reported and recorded (2nd term) objectively and accurately.
LEGAL ASPECTS: Maintains patient, self and others free from harm and potential hazards.	1. Respects the confidentiality of the patient by not making unwarranted disclosures of information learned through the care of his/her patients. 2. Performs only the nursing care for which he/she is prepared. 3. Safeguards patient's personal possessions. 4. Record pertinent patient data accurately and according to hospital policy.

AREA	CRITICAL ELEMENT
MEASUREMENT - VITAL SIGNS: The taking of temperature, blood pressure, pulse, respiration, height, weight accurately within ± 2 measurable units.	1. Places patient and instrument in proper position/location. 2. Reads instrument within ± 2° for temperature ± 2nd for blood pressure ± 2 beats per minute for apical pulse when measured with an instrument. 3. Counts respiration within ± 2 per minute. Counts pulse within ± 2 beats/minute. Counts pulse and respiration for one full minute when irregular. 4. Chooses proper cuff size when taking blood pressure. 5. Lubricates rectal thermometer. 6. Holds rectal thermometer in place. 7. Rinses soaking solution from oral thermometers prior to placement. 8. Uses scale appropriate to condition of patient. 9. Balances scale before weighing. 10. Reads scale within ± 2 scale units. 11. Maintains cleanliness of scale. 12. Undresses patient as necessary. 13. Measures height without shoes.

AREA	CRITICAL ELEMENT
RESTRAINTS: The application of soft materials to protect patient from self or environment.	1. Protects bony prominences. 2. Uses clove-hitch or similar securing knot that will not tighten further. 3. Secures restraint so that any movement or change in position will not harm patient. 4. Checks circulation every 30 minutes. 5. Releases restraint at least every 1-2 hours and exercise joints (if allowable). 6. Follows hospital policy for use and application of restraints.
SPECIAL MOUTH CARE: The administration of special care to teeth, and soft tissues of the mouth for patients with overt needs for such care.	1. Uses tooth brush or gauze pad to clean teeth. 2. Uses moist gauze pad or swab to clean soft tissues of mouth. 3. Rinses all surfaces with water or mouthwash unless contraindicated. 4. Applies moisturizer to lips and soft tissues.
DRAINAGE: The removal of secretions or fluids from a body cavity or wound into a container, by means of a tube which is in place.	1. Maintains or attaches tube to container. 2. Maintains patency of tube. 3. Maintains drainage through gravity or suction apparatus. 4. Cleans skin or tissue around tube at entry site, unless contraindicated. 5. Records character and amount of drainage. 6. When necessary to insert a tube, inserts in correct body cavity.
OBTAINING SPECIMENS: The collection of body secretions or exudates for analysis.	1. Obtains correct specimen. 2. Places specimen in correct container. 3. When necessary, analyzes specimen correctly. 4. Sends specimen to lab promptly.

AREA

APPLICATION OF HEAT OR COLD: The application of heat or cold to a part of the body for therapeutic purposes; includes use of hot water bottle, ice cap, ice collar, electrical or chemical pad, or heat lamp.

CRITICAL ELEMENT

1. Applies device
    a. When hot water bottle, ice cap, or ice collar is used:
        1. Fills container half full
        2. Expels air and tightens stopper.
        3. Covers hot water bottle, ice cap/collar with absorbent cover
        4. Secures hot water bottle, ice cap/collar at/on designated body surface
    b. When electrical or chemical pad is used:
        1. Activates device for heat or cold, as indicated
        2. Covers with absorbent material
        3. Secures at/on designated body surface
    c. When heat lamp is used: Position lamp approximately 24 inches from skin.
2. Removes device and inspects skin in 4-6 minutes for excessive flushing/mottling.
3. Discontinues treatment after 20-30 minutes, or as ordered.

AREA	CRITICAL ELEMENT
PRE-OPERATIVE TEACHING: Giving information and teaching post-operative activities.	1. Inform the patient and his family of the usual expected events and activities that will occur pre- and post-operative in relation to the patient's expected surgery, (including specific diagnostic or prognostic information). 2. Teach the patient pre-operatively to deep breath, cough and do leg and foot exercises by: a. actual demonstration b. patient return demonstration 3. Instruct the patient and his family as to the need for each of the following safety measures and ensure their cooperation as each is implemented.
SURGICAL PREPARATION: Implementing the safety measures in preparation for an anesthetic.	Ensures: 1. Food and fluid restrictions. 2. Removal of all prothesis, extraneous accessories, clothing, gum. 3. A clean mouth and body. 4. An empty bladder. 5. A quiet environment. Bed rest and siderails up after medication is administered.

AREA	CRITICAL ELEMENT
DEEP BREATHING AND/OR COUGHING: The encouragement, instruction and/or assistance with respiratory exercises for the promotion of lung expansion and/or the removal of secretions.	1. Deep Breathing: a. Positions patient (in upright position if possible). b. Tells and encourages patient to breathe in and out as deeply as possible. c. Repeats as ordered or indicated by patient's condition. 2. Coughing: a. Tells patient to breathe in and out deeply. b. Tells patient to cough forcefully on 3rd or 4th expiration to facilitate removal of mucous. c. When necessary, provides for splinting while patient is coughing.
LEG EXERCISES: The instruction and/or assistance with leg exercises for a person in bed for the promotion of circulation and muscle strength.	1. Supports joints. 2. Moves patient's leg and foot through the activity. 3. Has patient repeat the movement without assistance.
LEVELS OF CONSCIOUSNESS: The examination of pupils, level of consciousness and motor reflexes to determine neurological impairment.	1. Pupils: Uses flashlight to check pupils for equality and reaction to light. 2. Level of Consciousness: a. Asks questions to elicit orientation to time, place, and person. b. Asks patient to respond to simple questions. 3. Motor Response: a. Asks patient to grasp hands and lift legs. b. Applies pain stimuli to skin surface. 4. Records observations.

AREA	CRITICAL ELEMENT
ISOLATION: Prevents the transfer of organism from/or to the patient, self and others in a special environment.	1. Handles and disposes of contaminated materials correctly. 2. Applies and removes protective coverings correctly. 3. Maintains the cleanliness of clean areas and materials.

APPENDIX 5-1

1974 Selection Procedure

ALLIED HEALTH

Program with Special Enrollment Procedure	Enrollment Limit	No. of Alternates
NURSING	Students are accepted to maintain an average student enrollment of 60	20

ADMISSION PROCEDURE	Responsibility
---Student obtains MHCC admission application and Allied Health packet through A&R.	A&R
---A&R develops student file.	A&R
---A&R sends student files to program area on prearranged schedule.	A&R
---Program personnel will conduct orientation of all qualified candidates.	Program Personnel
---Program personnel will evaluate selection criteria information accumulated and develop 3 lists: (1) students accepted, (2) students placed on alternate status, (3) students not accepted.	Program Personnel
---Program personnel will send above lists to A&R.	Program Personnel
---Program personnel will keep files of students accepted. All other files will be returned to A&R.	Program Personnel

STUDENT APPLICATION DEADLINE

---Application should be on file in admissions by March 1 to be considered for fall. After March 1, applications will be received as openings are determined.

SELECTION CRITERIA

1. Standard MHCC entry requirements.
2. Allied Health application.
3. High school graduation or equivalent.

4. Health history record indicating ability to perform professional job requirements.
5. Three references (See A.H. guidelines).

PROCEDURE FOR STUDENT EVALUATION AND SELECTION	Responsibility
Program personnel will:	
---Evaluate student selection criteria information to determine students' eligibility.	Program Personnel
---Determine final selection of students and alternates based on random selection procedure.	Program Personnel
---Evaluate students applying after the March 1 deadline on a first come-first served basis, based on date of Allied Health application and satisfactory completion of selection criteria.	Program Personnel

STUDENT NOTIFICATION

A & R will notify:	
---Students of their enrollment status (acceptance, alternate status, or not accepted) within 30 days following receipt of lists from program personnel.	A&R
---Students of registration time, date and place.	A&R
---Students placed on alternate status of chance of acceptance into program.	A&R

PROGRAM ALTERNATIVES

--- A&R will refer students not accepted and those on alternate status to counseling for information of curriculum alternatives and of counseling and guidance services available.	A&R

APPENDIX 5-2

1975 Selection Procedure

ALLIED HEALTH

Program with Special Enrollment Procedure	Enrollment Limit	No. of Alternates
NURSING Revised May 7, 1975	40	40

ADMISSION PROCEDURE	Responsibility
---Student obtains MHCC admission application and Allied Health packet through A&R.	A&R
---A&R develops student file.	A&R
---A&R sends eligible student's files to program area on prearranged schedule.	A&R
---Program personnel will evaluate selection criteria and conduct orientation of all qualified candidates.	Program Personnel
---Students satisfactorily meeting all selection criteria (including the student orientation if required) will be randomly selected for admission or as alternates for the program.	A&R and Program Personnel
a. Students will be listed according to the order in which their name is randomly selected. b. The random selection shall be conducted by a representative of the program and a representative of the Office of Admissions and Records.	
---Program personnel will keep files of students accepted. All other files will be returned to A&R.	Program Personnel

STUDENT APPLICATION DEADLINE

---Applications and all required materials be on file in admissions by March 1 to be considered for fall.

Nursing (continued)
Page 2

SELECTION CRITERIA

1. Standard MHCC entry requirements.
2. Allied Health application.
3. High school graduation or G.E.D. Certificate.
4. Health history record indicating ability to perform professional job requirements.
5. Two high school transcripts with minimum GPA of 2.5 which includes one-year of chemistry and one year of algebra with 2.0 or better,
   or
   two transcripts of all prior college attendance with demonstrated proficiency in chemistry and algebra (2.0 or better).
6. Student orientation with the program staff to explain program expectations, licensing processes, professional requirements, and to ascertain student interest and potential.

STUDENT NOTIFICATION	Responsibility
A&R will notify:	
---Students of their enrollment status (acceptance, alternate status, or not accepted) within 30 days following student selection.	A&R
---Students of registration time, date and place.	A&R

APPENDIX 5-3

Vitae - Dr. Aubrey Forrest

SUMMARY

PROFESSIONAL INFORMATION CONCERNING

AUBREY LESTER FORREST

PERSONAL

Address: 2218 Glenridge
St. Paul, Minn. 55119

Home Telephone: 612-739-8137
Office Telephone: 612-296-6423

Date of Birth: November 21, 1934

Marital Status: Married with two children

Sex: Male

Height: 5'9"

Weight: 135

Health: Excellent

EDUCATION

Nebraska Wesleyan University	B.A.	6/56	Political Science and Education
Northwestern University	M.A.	6/58	Political Science
Northwestern University	Ph.D.	8/59	Educational Psychology, Higher Education, Counseling
Univ. of Nebraska at Omaha		7/61, 7/62	College Business Management
Indiana University		7/63	College Planning and Development
IBM Customer Executive School		8/64	Data Processing for Colleges
Kent State University		11/65	Study tour of educational systems of Switzerland, USSR, Hungary, Bulgaria and East Germany (sponsored by the Comparative Education Society)
American Council on Education		11/68	Institute for Academic Deans
Stephens College		7/69	Educational Media Institute (sponsored by U.S.O.E.)
Danforth Foundation		6/72	Workshop on Liberal Arts Education
American College Testing Program		6/74-8/74	Post-doctoral Fellowship

EXPERIENCE

Northwestern University (Ill.)	9/56-6/59	Teaching Assistant; Counselor
Kendall College (Ill.)	9/56-1/60	Instructor; Director of Publicity
National Merit Scholarship Corp.	4/59-6/60	Assistant Director of Scholarships
Univ. of Nebraska at Lincoln	6/60-2/63	Director of Scholarships and Financial Aid
Kansas Wesleyan University	2/63-8/66	Vice President; Dean of Students
Centenary College of Louisiana	8/66-7/68	Associate Dean of the College; Head of Dept. of Educ. and Psych.
Central Methodist College (Mo.)	7/68-12/73	Dean of College
Minn. Metro. State College	12/73-	Dean of Assessment

Part-time teaching experience at Kendall College, Univ. of Nebraska, Kansas Wesleyan Univ., Centenary College and Central Methodist College in the fields of psychology, political science, teacher education and physical education.

RESEARCH AND PUBLICATIONS

Major Papers and Reports:

Federal Aid to Private Institutions of Higher Education. 1955. Washington Semester Project Report. American University. 59 pp.

The 1974 Constitution of the Union of Burma and the Buddhist Tradition: A Study in the Conflict of Values. 1958. Master of Arts Thesis. Northwestern University. 102 pp. Bibliog.

The Use of Indigenous Information to Identify Potential Over-and Under-Achievers. 1959. Doctor of Philosophy Dissertation. Northwestern University. 150 pp. Bibliog.

National Council for Accreditation of Teacher Education Institutional Report. 1969. Central Methodist College. 159 pp. (editor)

National Association of Schools of Music Self-Survey Report. 1970. Central Methodist College. 84 pp.

North Central Association of Colleges and Secondary Schools Institutional Profile. 1970. Central Methodist College. 119 pp. (editor)

Periodical Articles:

"Persistance of Vocational Choice of the Merit Scholarship Winners." The Personnel and Guidance Journal. v. 39 #6 (February, 1961), p. 466-71.

"The Undergraduate Programs of Financial Assistance at the University of Nebraska." The Nebraska Guidance Digest. v. 10 #2 (March, 1961) p. 15-17.

"Counseling Talented Students on College Choice." The Personnel and Guidance Journal. v. 40 #1 (September, 1961), p. 42-7.

"Stop Spreading Student Aid Too Thin." College and University Business. v. 34 #1 (January, 1963), p. 45-6. (with Dan Pop)

"Space Utilization and the Development Officer." College and University Journal. v. 2 #4 (Fall, 1963), p. 24-7.

"Point of View - What About Student Government?" NASPA. v. 2 #4 (April, 1965), p. 37.

"Student Personnel Services in Higher Education in Communist East Europe." NASPA. v. 5 #1 (July, 1967), p. 17-23.

"The Narrative Transcript: An Overview." Educational Record. v. 56 #1 (Winter, 1975). p. 59-65. (With Richard Ferguson and Nancy Cole.)

Contributions:

"Counseling the College Bound Student on Financial Problems." p. 316-24. in Adams, J. F., ed. - Counseling and Guidance - A Summary View. N.Y.: The Macmillan Company, 1965.

"Counseling Talented Students on College Choice." p. 325-31. in Adams, J. F., ed. - Counseling and Guidance - A Summary View. N.Y.: The Macmillan Company, 1965.

Workbook:

Issues of Narrative Evaluation, Documentation, and Reporting of Student Learning. Iowa City: American College Testing Program, 1974. 324 pp. (Editor)

Working Paper:

A Student Handbook on Preparing a Portfolio for the Assessment of Prior Experimental Learning. New Jersey: Cooperative Assessment of Experiential Learning. 1975. 48 pp.

APPENDIX 7-1

Daily Behavior Chart and Computer Forms

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TEAM	SOC SEC NUM OR ASSIGNED NUM	(If Num assigned, then Assigners SSN)
BEHAVER	☐☐☐-☐☐-☐☐☐☐	☐☐☐-☐☐-☐☐☐☐
MANAGER	☐☐☐-☐☐-☐☐☐☐	☐☐☐-☐☐-☐☐☐☐
ADVISER	☐☐☐-☐☐-☐☐☐☐	☐☐☐-☐☐-☐☐☐☐
SUPERVISOR	☐☐☐-☐☐-☐☐☐☐	☐☐☐-☐☐-☐☐☐☐

AGE	SEX	YEAR	TERM	PACE		NUM OF PROJECTS
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APPENDIX 7-2

Letter Sent to Follow-up Study Participants

MT.
HOOD
COMMUNITY
COLLEGE

26000 S.E. STARK ST., GRESHAM, OREGON 97030 • PHONE (503) 666-1561

Dr. Earl L. Klapstein, *President*

October 10, 1974

Dear

As part of a federal reserach grant from the Fund for the Improvement of Post Secondary Education, the Mt. Hood Community College Nursing Program is attempting to evaluate and refine its curriculum.

A very important aspect of this process is to find out how the program is serving the needs of its consumers. Last year we studied the program's responsiveness to individuals utilizing health care services, patient consumers, as well as employers of health care workers, professional consumers. This year we intend to find out how the program serves its other consumers; students, past and present, and graduates. Thus, we have undertaken a follow-up study in which we are locating all former students and graduates and asking them how the program has prepared or failed to prepare them for a career.

Enclosed is a copy of the questionnaire developed for the follow-up study; a return envelope is also provided. We have kept the questions as simple and straight forward as possible.

We have attempted to reach all respondents by telephone but if we did not talk to you, may we request that you return this questionnaire to us promptly. The success of our efforts depends on this data.

Thank you very much for your cooperation. If you have any questions, please call Phil or Sonya at MHCC, ext. 249.

Sincerely,

Phil Jones/Research Assistant   Sonya Lindly/Secretary

sl
enclosures

APPENDIX 7-3

Questionnaire Sent to R.N. Graduates of the Program

MT. HOOD COMMUNITY COLLEGE
Allied Health Division/Nursing Program Grant

Follow-up Study Questionnaire

Name ______________________________ Year of Graduation _____ LPN ☐ RN ☐
Last First m.i. maiden

Address ______________________________ Phone ______________ Single ☐ Married ☐

Dependent Children While in Nursing Program __________ Ages ____ ____ ____ ____ ____

Dependent Children Now ________ Ages ____ ____ ____ ____ ____ ____

1) Present and past positions held (since leaving Mt. Hood Community College's Nursing Program). (Also list periods of unemployment and the reasons). Please list present position first.

Job Title Clinical Area	Shift	PT*	FT*	Employer & Address	From mo/yr	To mo/yr	No. of people supervised	In-Service Orientation		Salary	Reason for Leaving
								Kind	Length		
1)											
2)											
3)											
4)											

*PT - part time, FT - full time

2) Do you feel you needed more, less or the same amount of "inservice orientation" compared to the following graduates of other R.N. programs?

a) A.D.N. graduates more ☐ same ☐ less ☐

b) Diploma graduates more ☐ same ☐ less ☐

c) B.S. graduates more ☐ same ☐ less ☐

3) How would you rate your preparation compared to other nursing program graduates in the following areas:

Type of Program

AREA	A.D.N.			Diploma			B.S. Degree		
	better	equal	worse	better	equal	worse	better	equal	worse
1. Instruction	☐	☐	☐	☐	☐	☐	☐	☐	☐
2. Curriculum Content	☐	☐	☐	☐	☐	☐	☐	☐	☐
3. Clinical Experiences	☐	☐	☐	☐	☐	☐	☐	☐	☐
4. Other (Please specify)	☐	☐	☐	☐	☐	☐	☐	☐	☐
5. Class load*	☐	☐	☐	☐	☐	☐	☐	☐	☐

*Please think of ratings for this as - heavier, equal, lighter

4) Of the many competencies you acquired in the M.H.C.C. nursing program, name at least 5 that were the most useful (needed) in your job setting. Be specific. (List in order of most to least important).

5) Which competencies could be eliminated from the M.H.C.C. Nursing Program without being detrimental to a nurses' subsequent professional practice? (Be specific)

6) What behaviors have you had to acquire, as a consequence of your professional practice, that were not included in your education from M.H.C.C.'s Nursing Program? (Be specific)

7) Have you maintained your proficiency in the behaviors you were required to count while in M.H.C.C's nursing program? In what way did you maintain your proficiency? How do you know?

Program Product Behaviors*	Increased	Decreased	How Maintained	How do you know
1. Applies nursing concepts - Correct.				
2. Applies nursing concepts - L.O.				
3. Applies nursing skill - Correct.				
4. Applies nursing skill - L.O.				
5. Personalizes patient care				
6. Depersonalizes patient care.				
7. Feels positive about nursing care by self.				
8. Feels negative about nursing care by self.				
9. Judges interpersonal contact sensitive.				
10. Judges interpersonal contact insensitive.				
11. Teaches patient - Correct.				
12. Teaches patient - L.O.				
13. Feels prepared.				
14. Feels unprepared.				

*Behaviors you were required to count

8) Do you presently use precise behavior management? How?

9) What is your opinion of the recommended course load necessary to complete the A.D.N. program in 8 terms?

Too heavy ☐ Just right ☐ Too light ☐

10) Given your response to #9, what changes would you make in the curriculum, i.e. what courses would you drop and/or add? Why?

11) To what degree did the nursing faculty serve as adequate professional role models?

Very adequate ☐ Adequate ☐ Fair ☐ Poor ☐

Comments:

12) Was the education you received at M.H.C.C. adequate enough to enable you to reach your current professional goals? ☐ yes ☐ no If not, why?

13) In your job setting, are you assigned to the maximum extent of your nursing education?
Yes ☐ No ☐

Specific Comments:

14) Have you been assigned beyond the extent of your nursing education?

Specific comments:

15) Are you presently enrolled in or have you graduated from any educational institution since graduating from M.H.C.C.?

Where	PT*	FT*	graduated	major	G.P.A.+

*PT - part time, FT - full time
+Grade Point Average - use 4 point scale - A = 4, B = 3, C = 2, D = 1, F = 0

16) To what extent was the education you received in the M.H.C.C. nursing program related to your later studies?

Extremely helpful ☐ Somewhat helpful ☐

Quite helpful ☐ Not needed ☐

Was it necessary as a prerequisite? yes ☐ no ☐

17) May we contact your present supervisor asking for information regarding your on the job performance? ☐ yes ☐ no If no, why?

18) Would you be interested in joining an alumni group of M.H.C.C. nursing program graduates? yes ☐ no ☐

MT. HOOD COMMUNITY COLLEGE
ALLIED HEALTH DIVISION/Nursing Grant
Ph. 666-1561, ext. 249

Dear Respondents:

We discovered a deficit in our questionnaire and would like you to answer the following four questions. We had asked those questions of those persons who did not complete the program and it was pointed out by a research expert on campus, that in order to make valid comparisons we would need this information from you too.

If you have not sent back your original questionnaire, please include this sheet when you do. Otherwise, a return envelope is provided.

Thank you very much.

QUESTIONS

19) Were you working at a job at the same time you were enrolled in the nursing program? If so, how many hours did you work per week? ________

20) Was your financial situation adequate at the time you left the program?

21) Did you have adequate time to study?

22) Do you feel you needed remedial work in math, reading or some other non-nursing area?

APPENDIX 7-4

Questionnaire Sent to L.P.N. Graduates of the Program

MT. HOOD COMMUNITY COLLEGE
Allied Health Division/Nursing Program Grant

Follow-up Study Questionnaire

Name ______________________________ Year of Graduation ______ LPN ☐ RN ☐
Last First m.i. Maiden

Address ______________________________ Phone ______________ Single ☐ Married ☐

# Dependent Children While in Nursing Program __________ Ages ____ ____ ____ ____ ____

# Dependent Children Now __________ Ages ____ ____ ____ ____ ____ ____

1) Present and past positions held (since leaving Mt. Hood Community College's Nursing Program). (Also list periods of unemployment and the reasons.) Please list present position first.

Job Title Clinical Area	Shift	PT*	FT*	Employer & Address	From mo/yr	To mo/yr	No. of people Supervised	In-Service Orientation Kind	Length	Salary	Reason for Leaving
1)											
2)											
3)											
4)											

*PT - part time, FT - full time

MT. HOOD COMMUNITY COLLEGE
Questionnaire - page 2

2) Do you feel you needed more or less "inservice orientation" compared to graduates of other practical nursing programs?

☐ more ☐ same ☐ less

3) How would you rate your preparation compared to other practical nursing program graduates in the following areas:

AREA	better	equal	worse
1. Instruction	☐	☐	☐
2. Curriculum Content	☐	☐	☐
3. Clinical Experiences	☐	☐	☐
4. Other (please specify)	☐	☐	☐
5. Class load*	☐	☐	☐

*Please think of ratings for this as = heavier, equal, lighter.

4) Of the many competencies you acquired in the M.H.C.C. nursing program, name at least 5 that were the most useful (needed) in your job setting. Be specific. (List in order of most to least important.)

5) Which competencies could be eliminated from the M.H.C.C. Nursing Program without being detrimental to a nurses' subsequent professional practice? (Be specific)

6) What behaviors have you had to acquire, as a consequence of your professional practice, that were not included in your education from M.H.C.C.'s nursing program? (Be specific)

7) Have you maintained your proficiency in the behaviors you were required to count while in M.H.C.C.'s nursing program? In what way did you maintain your proficiency? How do you know?

Program Product Behaviors*	Increased	Decreased	How Maintained	How do you know
1. Applies nursing concepts - Correct				
2. Applies nursing concepts - L.O.				
3. Applies nursing skill - Correct.				
4. Applies nursing skill - L.O.				
5. Personalizes patient care.				
6. Depersonalizes patient care.				
7. Feels positive about nursing care by self.				
8. Feels negative about nursing care by self.				
9. Judges interpersonal contact sensitive.				
10. Judges interpersonal contact sensitive.				
11. Teaches patient - Correct				
12. Teaches patient - L.O.				
13. Feel prepared				
14. Feels unprepared.				

*Behaviors you were required to count

MT. HOOD COMMUNITY COLLEGE
Questionnaire - page 5

8) Do you presently use precise behavior management? How?

9) What is your opinion of the recommended course load necessary to complete the L.P.N. program in 4 terms?

☐ Too heavy ☐ Just Right ☐ Too Light

10) Given your response to #9, what changes would you make in the curriculum, i.e. what courses would you drop and/or add? Why?

11) To what degree did the nursing faculty serve as adequate professional role models?

Very Adequate ☐ Adequate ☐ Fair ☐ Poor ☐

Comments:

12) Was the education you received at M.H.C.C. adequate enough to enable you to reach your current professional goals? ☐ yes ☐ no If not, why?

13) In your job setting, are you assigned to the maximum extent of your nursing education? ☐ Yes ☐ No
Specific Comments:

MT. HOOD COMMUNITY COLLEGE
Questionnaire - page 6

14) Have you been assigned beyond the extent of your nursing education?

Specific comments:

15) Are you presently enrolled in or have you attended any educational institution since graduating from M.H.C.C.?

Where	PT*	FT*	Graduated	Major	G.P.A.+

*PT - part time, FT - full time
+Grade Point Average - use 4 point scale - A = 4, B = 3, C = 2, D = 1, F = 0

16) To what extent was the education you received in the M.H.C.C. nursing program related to your later studies?

Extremely helpful ☐ Somewhat helpful ☐

Quite helpful ☐ Not needed ☐

Was it necessary as a prerequisite? yes ☐ no ☐

17) May we contact your present supervisor asking for information regarding your on-the-job performance? ☐ yes ☐ no If no, why?

18) Would you be interested in joining an alumni group of M.H.C.C. nursing program graduates? yes ☐ no ☐

MT. HOOD COMMUNITY COLLEGE
ALLIED HEALTH DIVISION/Nursing Care
Ph. 666-1561, ext. 249

Dear Respondents:

We discovered a deficit in our questionnaire and would like you to answer the following four questions. We had asked these questions of those persons who did not complete the program, and it was pointed out by a research expert on campus, that in order to make valid comparisons we would need this information from you too.

If you have not sent back your original questionnaire, please include this sheet when you do. Otherwise, a return envelope is provided.

Thank you very much.

QUESTIONS

19) Were you working at a job at the same time you were enrolled in the Nursing Program? If so, how many hours did you work per week? __________

20) Was your financial situation adequate at the time you left the program?

21) Did you have adequate time to study?

22) Do you feel you needed remedial work in math, reading or some other non-nursing area?

APPENDIX 7-5

Questionnaire Sent to Dropouts of the Program

MT. HOOD COMMUNITY COLLEGE
Allied Health Division/Nursing Program Grant

Follow-up Study Questionnaire

Name ____ Single___ Married___
last first m.i. maiden

Address ____ Phone: ____________

#Dependent Children when in Nursing Program _____ Ages _____ _____ _____ _____

#Dependent Children now _____ Ages _____ _____ _____ _____ _____ _____

1) How long had you been enrolled in Mt. Hood Community College's Nursing Program before you left the program?

2) Why did you leave the program? (Be specific)

3) Were you working at a job at the same time you were enrolled in the nursing program? If so, how many hours did you work per week? ________

4) Was your financial situation adequate at the time you left the program?

5) Did you have adequate time to study?

6) Would you like to have remained in the nursing program?

If so, what things could the nursing or other M.H.C.C. faculty and administrators have done to help you stay in the program? (Be specific)

7) Do you feel you needed remedial work in math, reading or some other non-nursing area?

8) Are you presently employed in any area of nursing? In what capacity:
☐ Aide ☐ LPN ☐ RN ☐ Other

Follow-up Questionnaire
Page 2

9) What jobs have you held since leaving M.H.C.C.'s nursing program. (List present position first)

Job Title	Employer & Address	PT*	FT*	From mo/yr	To mo/yr	Salary	Reason for Leaving

*PT - part time, FT - full time

10) Are you presently enrolled in or have you attended any educational institutions other than M.H.C.C.? If yes:

Where	PT	FT	Graduated	Major	GPA*

*GPA - Grade Point Average. Use 4 point scale - A = 4, B = 3, C = 2, D = 1, F = 0.

APPENDIX 7-6

Questionnaire Given to Immediate Supervisors of Mt. Hood's Nursing Program Graduates

MT. HOOD COMMUNITY COLLEGE
Allied Health Division - Nursing Program Grant

Follow-up Study Questionnaire

NAME ______________________________ POSITION(Title) ____________________________

INSTITUTION ______________________________

1) Is ________________________, a Mt. Hood Community College RN graduate working under your immediate supervision, more, equal or less prepared than other A.D.N., diploma, or degree nursing graduates in the following areas:

	A.D.N.				Diploma				Degree			
AREA	More	Equal	Less	N.O.*	More	Equal	Less	N.O.	More	Equal	Less	N.O.
Interacts with staff												
Demonstrates leadership												
Administers Drugs												
Communicates												
Organizes												
Makes decisions												
Public Relations												
Teaches												
Is Creative												
Plans Care Efficiently												
Is patient advocate												
Is flexible												
Personalizes patient care												
Shows Integrity												
Evaluates patient care												
Applies concepts efficiently												
Applies skills efficiently												

N.O. - No opinion

Comments: (Be Specific)

2) In general, are Mt. Hood Community College Nursing Program graduates more, equal, or less prepared than other A.D.N., diploma, or degree nursing graduates in the following areas:

	A.D.N.				Diploma				Degree			
AREA	More	Equal	Less	N.O.*	More	Equal	Less	N.O.	More	Equal	Less	N.O.
Interacts with staff												
Demonstrates leadership												
Administers Drugs												
Communicates												
Organizes												
Makes decisions												
Public Relations												
Teaches												
Is Creative												
Plans Care Efficiently												
Is patient advocate												
Is flexible												
Personalizes patient care												
Shows integrity												
Evaluates patient care												
Applies concepts efficiently												
Applies skills efficiently												

*N.O. - No Opinion

COMMENTS: (Be Specific)

3) What do you feel are the limitations of Mt. Hood Community College graduates in professional practice?

4) What kinds of preparation do Mt. Hood Community College nursing graduates needs that they don't show evidence of receiving?

5) Do you have enough contact with the Mt. Hood Community College faculty necessary to make input into the nursing education process?

APPENDIX 7-7

Questionnaire Given to the Head Nursing Administrators in the Graduates' Work Setting

MT. HOOD COMMUNITY COLLEGE
Allied Health Division/Nursing Program Grant

Follow-up Study Questionnaire

NAME ______________________ POSITION(Title) ______________________

INSTITUTION ______________________

1) Are Mt. Hood Community College Nursing Program graduates more, equal or less prepared than other A.D.N., diploma, or degree nursing graduates in the following areas:

	A.D.N.				Diploma				Degree			
AREA	More	Equal	Less	N.O.*	More	Equal	Less	N.O.	More	Equal	Less	N.O.
Interacts with staff												
Demonstrates leadership												
Administers Drugs												
Communicates												
Organizes												
Makes decisions												
Public Relations												
Teaches												
Is Creative												
Plans Care Efficiently												
Is patient advocate												
Is flexible												
Personalizes patient care												
Shows Integrity												
Evaluates patient care												
Applies concepts efficiently												
Applies skills efficiently												

*N.O. - No opinion

2. What do you feel are the limitations of Mt. Hood Community College graduates in professional practice?

3. What kinds of preparation do Mt. Hood Community College nursing graduates need that they don't show evidence of receiving?

4. Do you have enough contact with the MHCC faculty necessary to make input into the educational process?

10/74
sl

APPENDIX A-1

Course Outline

for

Competency Based Education in the Community College

MT. HOOD COMMUNITY COLLEGE
Allied Health Division - Nursing
Spring 1975

COURSE TITLE: Competency Based Education in the Community College

COURSE NUMBER: ED 507

CREDITS: 1 - DCE

PREREQUISITES: None

INSTRUCTOR: Dr. Betty J. Pritchett

Session leaders: Associate Degree Nursing Faculty and Project Staff
Beni Rice, Gene Crumpton, Marge Dolph
Kathy Morimitsu, Phil Jones, Sonya Lindly

TEXT: None

SUPPLEMENTARY REFERENCES: Selected readings available

DESCRIPTION OF COURSE: Discussion and practice in three 3 hour sessions with group and individual assignments

SPECIAL EQUIPMENT NEEDED: None

OBJECTIVES OF THE COURSE: The participants will:

1. Examine philosophical bases for Competency Based Education
2. Practice:
    - 2.1 Pinpointing behavioral outcomes
    - 2.2 Programming course content
3. Examine methods to evaluate outcomes
4. Identify needs for implementation

Concept	Write	Say	Do	# errors allowed	accepted frequency	settin
			1. Participate in class discussion of the philosophies of Competency Based Education; its effect on student, teacher, institution, community.			#1-8 during 1st class
Pinpointing	2. Record at least 5 pinpointed behaviors observed on video tape applying given rules for pinpointing			2.	5/5 min	
		3. To group, pinpointed behaviors observed on video tape				
			4. Participate in revising statements incorrectly pinpointed			
		5. The rule violated for each statement incorrectly pinpointed				
			6. Pinpoint one behavio occuring in this group			
		7. To the class, pinpoint identified in #6.				
	8. From list of 20 statements, identify the statements that are correctly pinpointed; identify rule violated if incorrect				22/6	

Concept	Write	Say	Do	# errors allowed	accepted frequency	setti
	9. 2 behavioral outcomes desired from students as a result of having completed a course you teach				9. 10.	Bring to 2nd class
	10. As many pinpoints as you can related to obtaining the outcomes identified in #9					
Programming			11. Select 1 behavioral outcome and corresponding pinpoints from your homework assignment			#11-2 during 2nd class
	12. Using the outcome selected in #11, the pinpoints in the order in which they should be performed in order to attain the competency					
	13. Criteria for the first two pinpoints on your list i.e., a) within how much time should this activity be performed? b) how many times should this activity be performed? c) under what circumstances should this activity be performed?					

Concept	Write	Say	Do	# errors allowed	accepted frequency	setti-
Programming (continued)			14. Select one pinpointed behavior and related criteria			#11- duri 2nd clas
	15. All the information you need to know to perform this pinpoint to your stated criteria					
	16. The information from #15 in the order it needs to be learned to perform the pinpointed behavior to your criteria					
	17. A rule or explanation to teach the first item of information making sure you have not introduced unfamiliar words					
	18. Two exercises designed to test your students' knowledge of the information you have just given. (Some possible test forms are: questions, fill in the blanks, charts, pictures, or verbal responses)					
	19. A rule or explanation to teach the second item of information making sure you have not introduced unfamiliar words					
	20. Two exercises designed to test students' knowledge of the information you have just given. Include					

Concept	Write	Say	Do	# errors allowed	accepted frequency	Se
	20. (continued) a review question testing information given in #18.					
Measurement			21. Bring to class your ideas of how to grade or evaluate the student, based on the performance criteria you have developed in #13-20.		21. 22. 23.	Bring to 3rd class
Implementation		22. To class 3 examples of resource material that could be used independently by student in order to meet your course competencies				
	23. For 3rd class session, 3 administrative changes needed to implement competency based curriculum in your program					

APPENDIX A-2

Pinpoint Identification Test

MT. HOOD COMMUNITY COLLEGE
Allied Health Division - Nursing
April 15, 1975

PINPOINT IDENTIFICATION TEST
(6 Minutes)

DIRECTIONS: Mark a check (√) in the "correct" column for each statement which is correctly pinpointed. Make a check (√) in appropriate ruled column(s) that is violated for each statement incorrectly pinpointed.

	CORRECT	INCORRECT				
		COMPLETE MOVEMENT	OBSERVABLE	REPEATABLE	PASS DEAD MANS TEST	PASS STRANGER TEST
Spells words correctly						
Does math correctly						
Wiggles fingers						
Acts happy						
Walks blocks						
Feels urge to smoke						
Plays piano						
Understands gas laws						
Hits sister						
Lists signs of shock						
Writes paragraph						
Pronounces words correctly						
Lists U.S. Wars						
Smiles						
Learns add facts						
Listens to lecture						
Recognizes emotional disturbances						
Supports grieving						
Comprehends content of lecture						
Explains the effect of industrial revolution						
Avoids the use of profanity						
Does not contribute in class						

UNIVERSITY OF CALIF.
LOS ANGELES

JAN 13 1978

CLEARINGHOUSE FOR
JUNIOR COLLEGES